Washington State
Department of Transportation

Olympic
>> IT backup

Northwest
>> virtual desktop

North Central
>>security

Ferries Division
>> Wireless

HQ
>> Core system

Eastern
>>mobile technology

Southwest
>> teleconference /video

South Central
>> disaster recovery

2010 INFORMATION TECHNOLOGY PORTFOLIO

# Introduction to the IT Portfolio

I'm pleased to present the Washington State Department of Transportation's 2010 Information Technology Portfolio. This portfolio provides a snapshot of WSDOT's information technology (IT): our IT investment, an update of IT projects, IT's relationship with the WSDOT 2009-2015 Business Direction Plan, and plans for the future.

WSDOT strategically invests in information technology to improve our business processes and to provide the best possible transportation services to the citizens of Washington. The Office of Information Technology (OIT) is responsible for strategic and operational information technology management. OIT's vision is to leverage technology to maximize efficiencies, improve our services, demonstrate accountability, and provide the best possible return on investment to the State of Washington. Technology services and systems are a **key enabler** and **management tool** in our mission to keep people and business moving on the state's transportation systems.

Taking advantage of IT innovations and new technology WSDOT is moving forward during this period of economic challenges. WSDOT will continue evaluating and implementing recent advancements in new technologies and developments which can assist with critical business functions. A clear example of a recent success is the Project Management and Reporting System that is now supporting our capital construction program.

Rarely do future requirements get smaller. As WSDOT moves forward there will be both challenges and opportunities with tolling expansion, the Ferries Vehicle Reservation project and potential new traffic management systems. There will be opportunities to leverage state enterprise requirements to assist in moving major WSDOT projects forward. One example of leveraging state requirements is the need to replace the state enterprise financial system. Working with OFM on this project will assist WSDOT in the replacement of our agency core financial system. We are currently working with OFM and other state agencies for a state enterprise solution for a Time, Leave, and Labor Distribution (TLLD) system. This project will provide an opportunity for WSDOT to meet the Ferries Divisions' business requirements. Shared services will provide additional opportunities for partnerships. We will find ways to do our work better and faster. IT will always be part of any WSDOT required business solution. Working together, internally or externally WSDOT will meet the state's vision and goals for our transportation systems and put tax payer dollars to the most effective use.

# Table of Contents

# 1 - WSDOT IT Portfolio 2010 Overview

*"Executive Summary with issue analysis."*

With the current recession, the importance of information technology (IT) continues to grow.  The goal of IT is to reduce costs and to improve efficiencies through automation of existing systems and building systems to support emerging business process changes.  IT must be funded as a strategic business enabler, not just a cost center.  More and more of the critical missions of the Washington State Department of Transportation (WSDOT) depend on IT.  The direct relationship between IT support and business requirements cannot be over stated. This dependence could be as simple as use of the WSDOT network or as complex as passing statistics to a total dependence of a business on software, hardware and network systems. Maximizing what IT can do for WSDOT is critical to overall cost reductions for the agency.  The WSDOT IT Portfolio is a method to allow senior executives to understand the magnitude of the agency's investment in IT and the capabilities these investments bring to WSDOT business units.

RCW 43.105.105, Information Technology Decisions and Plans mandates that an agency information technology (IT) portfolio shall serve as the basis for making information technology decisions and plans.

The IT Portfolio organizes information for all WSDOT IT resources into the perspective of an investment portfolio. The major components of the IT Portfolio are found in the following document. The portfolio is responsive to the needs of a variety of decision-makers, including executives, technical managers, program managers, Department of Information Services (DIS) and Office of Financial Management (OFM) management and staff, members of the Information Services Board (ISB), the Governor, and Legislature. Information is structured to facilitate recognition of trends, analysis of problems and opportunities, and the evaluation of alternatives within the context of an agency's overall IT investment.

# Purpose of the Information Technology Portfolio

The purpose of the IT Portfolio Management Process is to provide a common approach for IT and business professionals to organize investments, to evaluate and prioritize those investments and to decide when and how to make changes to the investment portfolio. The formal IT Portfolio that is submitted annually to DIS in August, contains this overview (Section 1) along with sections on the agency's strategic business plan and IT Strategic Plan (Section 2), technology infrastructure (Section 3 – what we currently have), summaries of current investments (Section 4 – funded and ongoing projects/investments), planned investments/projects (Section 5 – unfunded projects/investments), and post implementation reviews of completed projects, annual project reviews, and the WSDOT IT Portfolio Certification letter (Section 6). Included in the annual certification letter are sections on the WSDOT IT Security Plan review/update and the WSDOT IT Disaster Recovery (DR) Plan review/update.

## Convergence of Business Mission and IT Vision

Information Technology exists to support the WSDOT business missions and represents a substantial investment of WSDOT funds. To be successful there must be a convergence of business mission and the IT vision. This section of the IT Portfolio describes that convergence. First the agency's business is described, legislative mandates are reviewed, the agency mission is laid out, and then primary business objectives are identified. This provides a foundation for understanding WSDOT. Next the IT vision is described, alignment of current IT investments to business objectives is defined, the importance of IT in meeting agency goals is reviewed, and then future investments needed to strengthen IT support of the agency's mission are outlined.  This convergence becomes more important each year as IT support for WSDOT programs becomes greater each year. **There is little that WSDOT does as an agency that does not depend to some degree on IT.**

## Agency Mission

The mission of the Washington State Department of Transportation is to "keep people and business moving by operating and improving the state's transportation system vital to our taxpayers and

communities". IT supports this mission on a 24/7 basis. To accomplish this mission WSDOT works towards achieving five goals;

- Safety,
- Preservation,
- Mobility (Congestion Relief),
- Environmental Quality,
- System Stewardship.

All IT investments must support and facilitate these goals. As overall resources decline due to economic circumstances WSDOT must count on IT to help close the gap between mission and resources that support business requirements.

## Legislative Mandates for WSDOT

The primary legislative mandates guiding WSDOT are contained in RCW 47.01, Public Highways and Transportation and Engrossed Substitute Senate Bill 6381 Supplemental Transportation Bill enacted MARCH 30, 2010.

The Department of Transportation is mandated:

- To create a statewide transportation development plan which identifies present status and sets goals for the future;
- To coordinate transportation modes;
- To promote and protect land use programs required in local, state, and federal law;
- To coordinate transportation with the economic development of the state;
- To supply a broad framework in which regional, metropolitan, and local transportation needs can be related;
- To facilitate the supply of federal and state aid to those areas which will most benefit the state as a whole;
- To provide for public involvement in the transportation planning and development process;
- To administer programs within the jurisdiction of RCW 47.01.011 relating to the safety of the state's transportation systems;
- To coordinate and implement national transportation policy with the state transportation planning program.
- To exercise all the powers and perform all the duties necessary, convenient, or incidental to the planning, locating, designing, constructing, improving, repairing, operating, and maintaining state highways, including bridges and other structures, culverts, and drainage facilities and channel changes necessary for the protection of state highways,
- To examine and allow or disallow bills for any work or services performed or materials, equipment, or supplies furnished.

## Primary Business Objectives

WSDOT business objectives directly support the Governor's Priority to provide a "seamless transportation system to the prosperity of our state that also addresses the safety of our travelers". The Governor's priorities for Transportation include;

- Putting Safety First,
- Seamless Regional Transportation,
- Building a better future for Washington,
- Keeping the ferries moving,
- Maintaining our infrastructure.

The Secretary of Transportation's defined primary business objectives are found in the department's Business Directions: WSDOT's 2009-2015 Strategic Plan document linked to Section 2 of this IT Portfolio. WSDOT's business direction, as well as specific objectives, and performance measures, have been identified under each goal. The number of objectives under each goal is:

- Safety; eight objectives
- Preservation; twelve objectives
- Mobility (Congestion Relief); ten objectives
- Environment; four objectives
- Stewardship; ten objectives.

# IT Vision

WSDOT strategically invests in information technology to improve our business processes and to provide the best possible transportation services to the citizens of Washington. The Office of Information Technology (OIT) is the agency's technology organization responsible for strategic and operational information technology management. It is the vision of WSDOT OIT to leverage technology to maximize efficiencies, improve our services, and provide the best possible return on investment to the State of Washington. WSDOT Executive management embraces the use of technology services and systems as a **key enabler** and **management tool** in our mission to provide the citizens of Washington with the best possible state transportation infrastructure.

## *Alignment of Current IT Investments to Business Objectives*

Information technology investments support the following WSDOT services:

### IT Support for WSDOT Services

**Direct Services to the Public**
Traffic Flow & Congestion Maps
Live Traffic Cameras
Road Closures, Construction Status
Ferry Schedules & Routes
Ferry Vessel Location Maps
Mountain Pass and Weather Reports
Incident Response Team Communications
Ferry Online Ticket Sales

**Environmental & Engineering**
Environmental Assessments
Bridge Design Engineering
Computer Aided Drafting & Engineering
Roadway & Right of Way Designs
Commitment & Permit Compliance

**Construction:**
Manage & Track Construction Contracts through the use of the Project Management and Reporting System
Construction Materials Test Tracking
Cataloging Pavement Deficiencies

**Maintenance:**
Highway Maintenance Tracking
Equipment Inventories
Facilities Management
Traffic Monitoring & Signals

**Washington State Ferries**
Labor Management
Automated Vessel Dispatch
Electronic Fare System

**Planning & Programming:**
Construction Project Identification, Scoping & Prioritization
Traffic Data Capture and Reporting
Highway Systems Inventory
Accident & Hazardous Locations Tracking
Statewide Transportation Improvement Programs (STIP)
Transportation Improvement Programs (TIP) for Metropolitan Planning Organizations (MPO's) & Regional Transportation Planning Organizations (RTPO's)

**Project Management:**
Project Planning & Resource Scheduling
Progress Tracking & Reporting
Project Management and Reporting System

**Financial and Administrative Management**
Budget Management
Accounting Services
Performance Monitoring, Track State, Federal & Local Program Funds
Contract Management & Payments
Transportation Executive Information System (TEIS)
Federal Highways Administration Billing & Reporting
Payroll, Training, Human Resources Management
Purchasing, Inventory

## Importance of IT in Meeting Agency Goals

WSDOT is an engineering oriented agency that requires significant information technology support. Examples of information technology required are Computer Aided Engineering (CAE) design software, Geographic Information Systems (GIS), Project Management and Reporting System (PMRS) and document workflow.

OIT has accomplished and continues to work the following critical IT requirements:

- **2011 Supplemental & Legislative Session.** The impact of the recession resulted in WSDOT submitting very few new decision packages.  While the replacement of Critical Applications is a high priority project there was not funding available to move any of the replacement projects forward. FTEs were reduced and moved from the Enterprise Architecture section and used to assist in other key OIT requirements. OIT will continue to look for innovative ways to move Critical Applications forward, but without funding this will be a difficult task.

- **2010 Supplemental & Legislative Session.**  WSDOT OIT submitted a budget request for funding the continuation of the Critical Applications Replacement Plan. This request was for the continuation of the planning for the first two applications to be developed – Transportation Information Planning and Support System (TRIPS) and Time, Leave, Labor Distribution (TLLD).  The funding was not received and OIT is examining other alternatives to continuing this effort.

- **2009 – 11 Budget & Legislative Session.** WSDOT submitted requests to continue the three critical ongoing major IT projects – Transition to the State Government Network (SGN), Project Management and Reporting System (PMRS), and the Critical Application Assessment and Implementation Project.  Of these three critical projects only PMRS received funding in this biennium ($2.9 million for maintenance and $0.9 million for continued development). In addition and in coordination with the Critical Applications Assessment and Implementation project WSDOT plans to continue work on the overall WSDOT IT enterprise architecture project. With the reduction of OIT funding for the Critical Application Implementation Project the proposed enterprise architecture work will be scaled back. Additionally funding for the Improve Website Capacity project was requested and funded for $382,000.  A request to re-apportion $300,000 for the Ferries Employee Dispatch System (WINDS) was approved with a September 2010 estimate completion date.

- **Enterprise Architecture Program.** In support of the Critical Applications Assessment Study's recommendations, OIT has put in place a program that will fundamentally change how systems are developed and implemented in WSDOT.  The Enterprise Architecture Program completed analysis and has started a phased initiative to establish a foundational infrastructure that will move the agency to a Service Oriented Architecture.  This foundation will support WSDOT's Critical Systems replacement projects and other major systems development initiatives.  **Continued critical funding short falls and will lengthen the time for replacement of aging IT systems.**

- **Improvements in Technology Project Delivery and Accountability.** Continued incremental improvements in delivery and accountability of agency information technology projects including ISB periodic reporting requirements as well as participating in the Quarterly Project Reporting (QPR) to agency executives.  Addition management information is being made more visible to IT managers and the public through the use of "Dash Boards" of key performance indicators.

- **Improvements in Operational Processes.**  In support of implementing Informational Technical Information Library (ITIL) processes, WSDOT OIT started evaluating current operational standards and processes.  As a result, there have been changes to Change Management and Technical Review processes.   WSDOT OIT continues to review and update other operational processes in search of efficiencies and cost savings.

## Description of Current & Future Investments

Priorities of the Office of Information Technology provide the outline of where future investments are needed to strengthen support of the Agency's and OIT's Mission.

## Office of Information Technology 2009-2011 *Organizational Priorities*

❖ **WSDOT Technology Operations**

Maintain a secure and reliable technology infrastructure so that agency employees and the traveling public can access WSDOT's technology resources, when they need it.

❖ **Maintain Current Technology Tools for WSDOT**

Maintain current technology tools for the agency and replace hardware/software based on WSDOT business priorities.

❖ **IT Security and Disaster Recovery Program**

Establish an IT Security and Disaster Recovery Program with resources designated to manage the essential functions of IT Security and Disaster Recovery Planning.

❖ **Meet WSDOT's Growing Technology Service Requirements**

Ensure the agency's technology services can adapt and expand to meet WSDOT's rapidly growing business requirements, including leading-edge technologies such as Web Services (WSDOT website, Traffic/Traveler Information Systems), Enterprise Resource Planning Systems (Tolling, Ferries Reservations), Data Security, Data Warehouse, Network Access/Connectivity, Voice/Video technologies and Geographic Information Services.

❖ **Provide Leadership for WSDOT IT Projects**

Provide proactive leadership to agency IT projects to ensure they align with current technologies and future directions. Partner with WSDOT business to deliver high priority technology projects, such as the Project Management Reporting System (PMRS), WSDOT Tolling initiatives and Ferries Reservations.

❖ **Critical Applications Implementation Plan**

Ensure current and future system development meets WSDOT's business priorities and is consistent with the overall direction of other key state systems. Continue the WSDOT Critical Applications Implementation Plan; pursue Legislative support of the next phases Including Transportation Information Planning and Support System (TRIPS) replacement and Time, Leave, Labor Distribution (TLLD).

❖ **Implement IT Best Practices**

Implement industry best practices for continuous improvement in IT service management and delivery. Develop a comprehensive and achievable plan to implement IT Infrastructure Library (ITIL) to include key processes such as an IT Service Catalog and a Configuration Management Database (CMDB). Continue the Enterprise Architecture Program to implement a technology foundation which will support the agency's existing business applications and newly developed systems in the future.

❖ **Innovate!**

Continually improve the quality, effectiveness and efficiency of IT systems and services. Provide innovative technology solutions that enhance the productivity of every WSDOT employee.

## IT Plans, Proposals, and Acquisitions Process

This section describes the agency process for reviewing IT plans, proposals, and acquisitions, the acquisition process, adherence to state/ISB technical standards, and adherence to state/ISB complaint and protest procedures.

## Process for Reviewing IT Plans, Proposals, and Acquisitions

The Office of Information Technology develops plans and proposals for the formal information technology program (C Program). If an information technology enterprise service is provided by the department, or an agency has a specific requirement to acquire hardware, software, or purchased or personal services directly, WSDOT will follow Section 903 and 904 requirements and consult with the Department of Information Services (DIS)  in developing the plan.  The plans and proposals will include input from business stakeholders. These plans and proposals are reviewed and approved by the agency leadership team prior to submission to DIS.

## Acquisition Process

The Office of Information Technology (OIT) Contracts Office follows a documented formal process providing an open and fair opportunity to qualified vendors.  This open and fair process culminates in a vendor or service provider selection.  Selection is based on criteria which may include such factors as consulting fees, cost, ability, capacity, experience, reputation, responsiveness to time limitations, responsiveness to solicitation requirements, and quality of previous performance. The acquisition process is in compliance with statutes and rules relating to contracts and/or services and follows all Information Services Board (ISB) policies, standards, and guidelines issued under RCW 43.105 as well as RCW 39.29.

## Adherence to State Technical Standards

The architectures approved by the Information Services Board (ISB) provide the framework for WSDOT IT internal technical standards.  The only deviations are as required by Federal Intelligent Transportation Systems (ITS) standards and agreements between WSDOT and WSP for radio communications.  ISB published standards are linked from the WSDOT Information Technology Manual (M3017.00) as a reference point for all agency staff.

## Adherence to State Complaint and Protest Procedures

The OIT Contracts Office uses the ISB recommended "Resolution of Complaints and Protest" language from the State IT Investment Standard and inserts it into all competitive acquisition documents issued from the office.

## Overview of Technology Infrastructure
This section provides and overview of **Section 3** of the IT Portfolio which contains the detailed information of the technology infrastructure including technology environment, computing hardware, computing software, networks, critical applications, and a description of who is doing IT work.

### a. Technology Environment
WSDOT supports a complex environment as outlined below:

- Locations (with a WSDOT network connection) — 235
- Operating systems supported (6 Mainframe & 8 Server/Desktop) — 14
- Physical Severs connected to the network — 1036
- Virtual Servers — 304
- PCs/workstations — 9366
- Data centers (HQ, TOB, ER, NC, NW, OR, SC, SW & WSF) — 9
- Software applications — 234
- Programming Languages — 33
- Programming Environments — 13
- Data marts — 14
- Databases — 734
- Database platforms *(SQL, Mainframe, FileMaker & GIS)* — 4

## b. Computing Platforms

WSDOT's infrastructure includes a diverse collection of platforms located throughout the state including the following software:

- WSDOT uses a range of platforms to support specific IT needs across an extensive Wide Area Network (WAN) supported by Local Area Networks (LAN). The WSDOT IBM mainframe environment is providing an application environment for legacy applications. Attached to the WSDOT networks are 1036 virtual and physical servers and approximately 9366 PC's deployed throughout WSDOT for FTEs and contractors working for WSDOT.

- Microsoft SQL Server software is used for the WSDOT client/server environment and is the preferred database for WSDOT applications.

- The inventory of IT platforms (Assets such as hardware and software) is tracked across the agency by Remedy software. In addition Remedy is used to track IT Help Desk submissions.

- Workstation active inventory, deployment and remote control services are provided by Microsoft System Center Configuration Manager, which is currently installed on most network connected workstations.

- The WSDOT Internet and Intranet web sites are supported by Microsoft's IIS (Internet Information Services), CMS (Content Management Server), Microsoft .Net/C# application software and Adobe ColdFusion Server.

- WSDOT uses Microsoft Exchange Server software for its Email system.

- The WSDOT operations center at HQ includes an IBM 2066-0A1 mainframe running z/OS operating system. This system connects to the TCP/IP network via an OSA host adapter card. The IBM 2066 is classified as an Enterprise Server. Mainframe services are provided to workstations via Attachmate Extra! via TCP/IP connectivity. Several large and complex business systems currently reside on the mainframe as well as server file storage / backup capabilities.

- Internet connectivity is currently provided to WSDOT by DIS with a Checkpoint Firewall-1 firewall at WSDOT. Only known devices, either from Internet or from other state agencies, are allowed to connect directly to any machine within the WSDOT network. Only Email, HTTP, and "pulled" FTP connections are allowed through the firewall.

## c. Computing Software

WSDOT's infrastructure environment contains a variety of software tools to support the mainframe, server, and network environments. The agency has adopted workstation standards for all desktop software documented as "Level Playing Field (LPF)". The mainframe is primarily supported by IBM software with additional specialty software products, i.e. Software AG ADABAS/Natural database product. A portion of the mainframe environment is split for DASD used for server backups and file services. Server environment is primarily Microsoft software with small additional products to support various business groups, i.e. FileMaker Pro, Geographic Information Systems (GIS) products, and computer-aided engineering software.

## d. Networks

WSDOT has a complex and widespread configuration of wide area and local area networks to serve internal and external customers. The major components of the WSDOT network include:

    1) WSDOT Data Network;
    2) the WSDOT Voice and Video Network, and
    3) WSDOT Traffic Networks.

The WSDOT network environment is based primarily on Microsoft Windows and uses TCP/IP as the primary network protocol. A description of the major components is provided in "Section 3 – Infrastructure".

## e. Critical Applications

The "Critical Applications" consist of fourteen systems that constitute the department's primary financial management, timekeeping, program management, project management, and asset management systems. These systems are depicted on the following page. These systems perform a range of business functions for the department including needs identification and project prioritization, development and monitoring of the department's capital construction program, asset management, project management, procurement, management of the revenue cycle, and financial reporting and general ledger. (See chart on next page)



**Critical Applications – Current Systems**
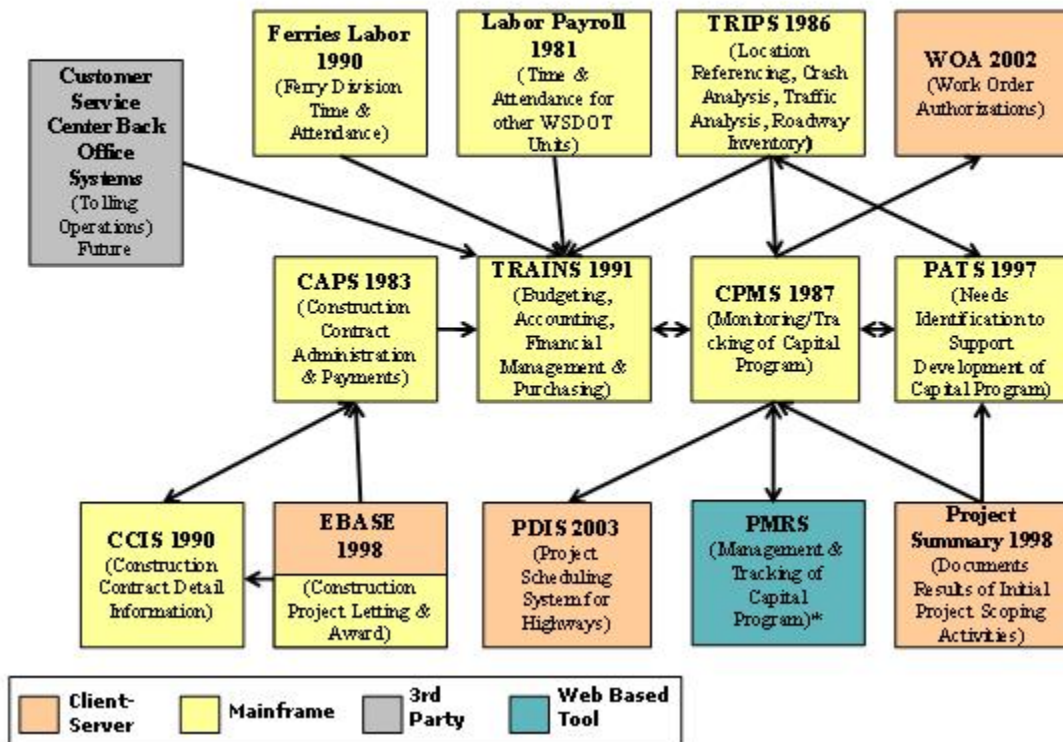
- **Capital Program Management System (CPMS) –** Mainframe application that has been in use since 1987. Supports development, monitoring, managing and delivering WSDOT's capital construction program.
- **Construction Contracts Information System (CCIS) -** Mainframe and client/server application that has been in use since 1990. Tracks construction contract details, e.g. start dates, end dates, percent complete, fair hiring practices, fair wage rates, percent of work sublet, etc.
- **Contract Administration and Payment System (CAPS) –** Mainframe application that has been in use since 1983. Maintains administrative and payment information about highway and ferry construction contracts. Creates payment vouchers to pay contractors.
- **Estimate and Bid Analysis System (EBASE) -** Client/Server application that has been in use since 1998. Contains engineer's estimates and contract bid history for highway construction projects. Estimates and bid information are uploaded into CAPS.
- **Labor Collection and Distribution System/Payroll –** Mainframe application that has been in use since 1981. Processes employee hours worked, leave taken, and financial (cost accounting) details associated with labor hours. Interfaces payroll data to the State's central payroll system.

- **Priority Array Tracking System (PATS) -** Mainframe system that has been in use since 1997. Collects, maintains and tracks WSDOT's capital highway program deficiencies to support development of the capital highway construction program.
- **Project Delivery Information System (PDIS) -** Client/Server application that has been in use since 2002. Project scheduling system for the capital highway construction projects.  This system is being replaced by the PRMS project (completed 6/2010) and will be retired January 2011.
- **Project Summary** Client/Server application that has been in use since 1998. Collects capital project information during initial project scoping – documents the department's commitment for scope of work and documents design, programming and environmental decisions.
- **Transportation Information Planning and Support System (TRIPS) -** Mainframe application that has been in use since 1986. Maintains and processes current and historical data about the WSDOT roadway network, traffic volumes and classifications, collisions and collision severity.
- **Transportation Reporting and Accounting Information System (TRAINS) –** Mainframe application that has been in use since 1991. Accounts for all WSDOT revenues, expenditures, receipts, disbursements, resources and obligations. Is a highly customized version of an American Management Systems (AMS) software package. (Includes the budget system – TRACS)
- **Work Order Authorization System (WOA) -** Client/Server application that has been in use since 2002. Provides for funding approval of preliminary engineering, right of way and construction expenditures for all projects in the highway construction program.
- **Ferries Labor –** This system will process employee hours worked, leave taken, and financial (cost accounting) details for Ferries Merit 5 employees.  Data from this system will be provided to Department of Personnel's Human Resources Management System to support payroll processing. The current system was developed in 1990.
- **Customer Service Center Back Office Systems –** As the use of tolling becomes wider spread WSDOT has determined that to facilitate growth tolling will need to be more centralized support.  SR 167 High Occupancy Tolling (HOT) Lanes and the toll for the Tacoma Narrow's Bridge are using a consolidated tolling and service system, but it may not be able to support additional growth.  Other projects are already starting that will use tolls as part of the overall cost recovery.
- **Project Management and Reporting System (PMRS)** – PMRS has been developed to provide enhanced web based project scheduling, project reporting and content management tools to support management of the delivery of capitol program construction projects.  It is primarily based on the Primavera suite of project management tools.  SPMG is the group that is supporting the development. The project was completed June 2010.

One of the major initiatives of the '07-'09 biennium was the completion of a Critical Application Implementation Feasibility Study.  This document encompasses a comprehensive feasibility study that will provide the detail and data required to replace and upgrade these critical systems over the coming biennia.  The identification of funding for the implementation and replacement of these critical applications is absolutely mandatory if WSDOT is to proceed to improve accountability, speed, and visibility of the work that is done. The Feasibility Study was completed by Dye Management, INC. The full report can be obtained from the WSDOT OIT Enterprise Architect. Due to the current budget shortfalls the replacement time schedule is undetermined.

## Mainframe Upgrades and Replacement

Many of the critical applications listed above run on WSDOT's mainframe.  They provide support for the tools necessary for WSDOT to perform mission critical functions.  These applications are running on an out-dated and unsupported mainframe which is more than fifteen years old.  WSDOT has projected a cost savings by replacing the current mainframe with a new model. The new mainframe will provide additional technologies to support these critical applications.  The return on investment (ROI) is three years with a lower total cost of ownership (TCO) than the current equipment.

A new mainframe would provide cost savings by lowering the number of Microsoft SQL licensing needed and through use of DB/2 software.  The DB/2 allows the SQL databases to connect directly with the

mainframe data.  The direct connect would result in cost savings with server storage since data would not be replicated on the server and the datamarts.  The datamarts and other databases needing mainframe data would directly connect to the necessary information.  Additional savings would be from the reduction in middleware licensing.  The middleware that currently allows server to mainframe data connectivity would not be needed.  Further many of our current projects, such as the Time, Leave, and Labor Distribution (TLLD) System, would provide benefits since partner agencies (OFM) would be able to directly connect to WSDOT mainframe Payroll system.

The replacement of the mainframe would also provide opportunities for the mainframe developers.  The developers would be able to work in the same development platforms such as .net, C#, Java or XML which are used for all the current WSDOT OIT systems.  Replacing the mainframe with the newer technology would provide the opportunity for development staff to use these newer coding platforms with the mainframe would translating the code rather than middleware translating the code.  Cost savings would be found with the lowering of licensing costs for the development software as well as time/effort in the development or enhancement of these critical applications.

With the new mainframe technology, there is an opportunity for WSDOT to leverage web services while providing faster access times.  This technology would also reduce the network traffic footprint, providing additional connectivity for regions.

## f.  Who is Doing the Work

The Office of Information Technology (OIT) is the core technology service provider for the Department of Transportation.  Technology services are managed and maintained by OIT and provide essential support for the agency statewide.  Services provided include all facets of technology such as, infrastructure/ networks, mainframe operations, web operations, technology equipment, statewide business applications, desktop services and support, technology strategic planning and governance.

| Subprogram C1  Business and Administration | 14.2  FTEs |
|---|---|

Provides the executive management of Information Technology and the C program.  Key activities:

- IT Director; Deputy Director, Program Administration and Management
- IT Communications
- Customer Relationship Management
- Strategic Planning
- IT Portfolio Management and Technology Governance
- Performance Reporting
- IT Administrative Support

| Subprogram C2  Field Services | 106.9  FTEs |
|---|---|

Provides strategic and operational coordination in support of the statewide infrastructure backbone along with region and ferries technology activities.  Key activities:

- Application Deployments
- Level Playing Field (LPF) Software Support
- Workstation Configuration and Security
- Software Upgrades & Maintenance Releases
- Hardware Upgrades and Replacements
- IT Help Desk
- Disaster Recovery
- HQ Desktop Services

| Region IT (includes Ferries Division) | (FTE count included in total for subprogram C2) |
|---|---|

Includes regional Information Technology support.  Key activities:

- Local Area Network and Server Planning
- Region Computer Equipment Purchase Planning
- Region Help Desk Administration
- Region Software Technical Support
- Regional Application Deployment
- Local Area Network, Server Installation & Support
- Computer Workstation Installation & Support

| Subprogram C3  Infrastructure Services | 42.0  FTEs |
|---|---|

Provides enterprise management and operational support for mainframe operations.   Key activities:

- Mainframe Operations
- Network Planning & Operations
- Server Management and Support
- LAN/WAN Design
- Voice/Video Planning, Design & Operations
- Voice Help Desk
- Network Security Operations

| Subprogram C4  Enterprise Implementation | 9.0  FTEs |
|---|---|

Provides consulting, business analysis and project management knowledge, expertise and methodology for Information Technology Projects.  Key activities:

- IT Project Management Guidelines & Policy Integration
- Project Planning/Scoping
- Project Management
- Project Tracking & Reporting
- Change Management
- IT Customer Consulting and Business Needs Assessment
- Build/Buy Analysis & Recommendations
- Project Post Implementation Reviews
- Enterprise Architecture

| Subprogram C5  Enterprise Application Services | 47.2  FTEs |
|---|---|

Provides application and Tier 3 application support for enterprise applications.  Key activities:

- Application Development
- Application Enhancements
- Application Maintenance
- Tier 3 Application Support
- Product Support
- Software Testing & Quality Assurance

| Subprogram C6  Software Maintenance | 0  FTEs |
|---|---|

Provides budget codes for software maintenance agreements, contracts, and subscription services.

| Subprogram C7  Data Management Services | 20.0  FTEs |
|---|---|

Provides data management support for Enterprise.   Key activities:

- Data Analysis and Modeling
- Data Mart Development and Support
- Data Administration
- Customer Query Tool Support/Datamart Administration
- Data Security Administration
- Data Storage & Capacity Planning
- Data Catalog Administration

In addition, there are a number of other IT specialists employed in business units that are funded under program budgets. Budget reductions in the C program will directly impact on OIT's ability to meet mission requirements.

## g. IT Organizational Structure



Office of Information Technology (OIT)
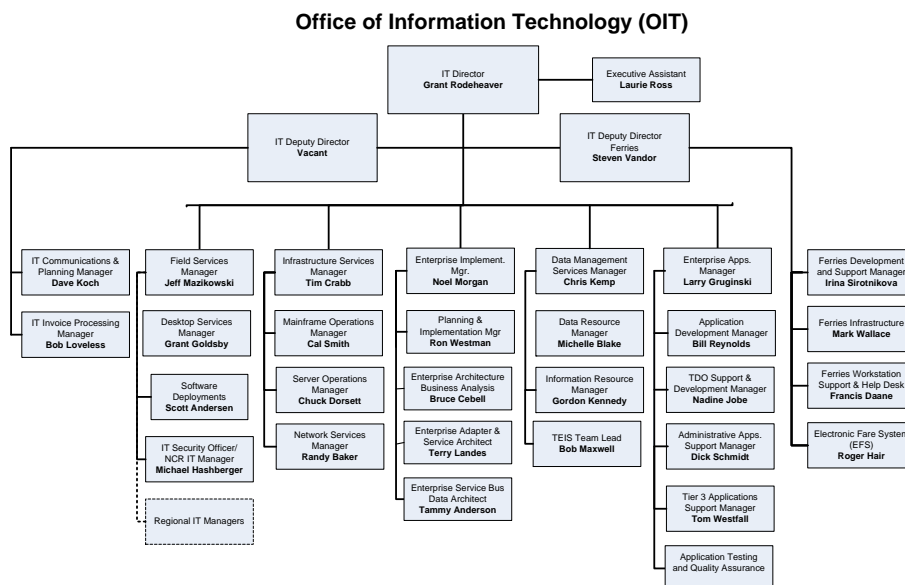
IT organizations and business units with IT groups are shown on the following chart in gray with bars.

## T Organizations

WSDOT Business Units with IT Functions
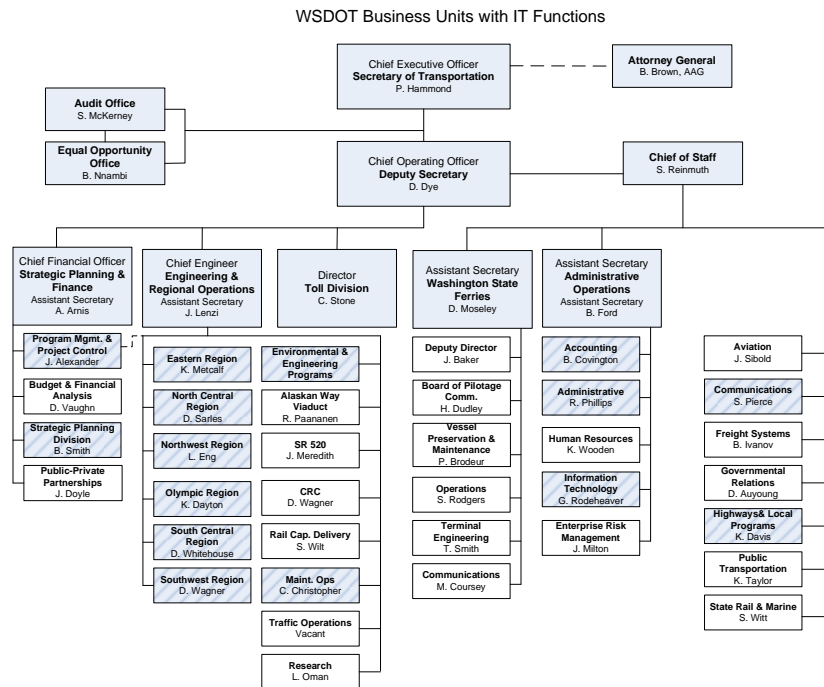


## Analysis

The Office of Information Technology (OIT) enables the use of technology throughout WSDOT.  OIT is responsible for the management of the department's technology program and provision of all core technology services.

The department's technology usage has shown dramatic growth over the last decade, with continued growth expected into the future especially with the department's mission to deliver the largest capital program in state history.

WSDOT OIT continues to innovate with solutions such as server virtualization to cut down the costs of hardware and support while providing better service in the area of recovery.  These innovations are off-set by increased agency staff and the need for desktop hardware.

The following two charts are examples of the growth in hardware to be supported and that the growth expected in FTEs proportional to the amount of equipment growth has lagged considerably behind.
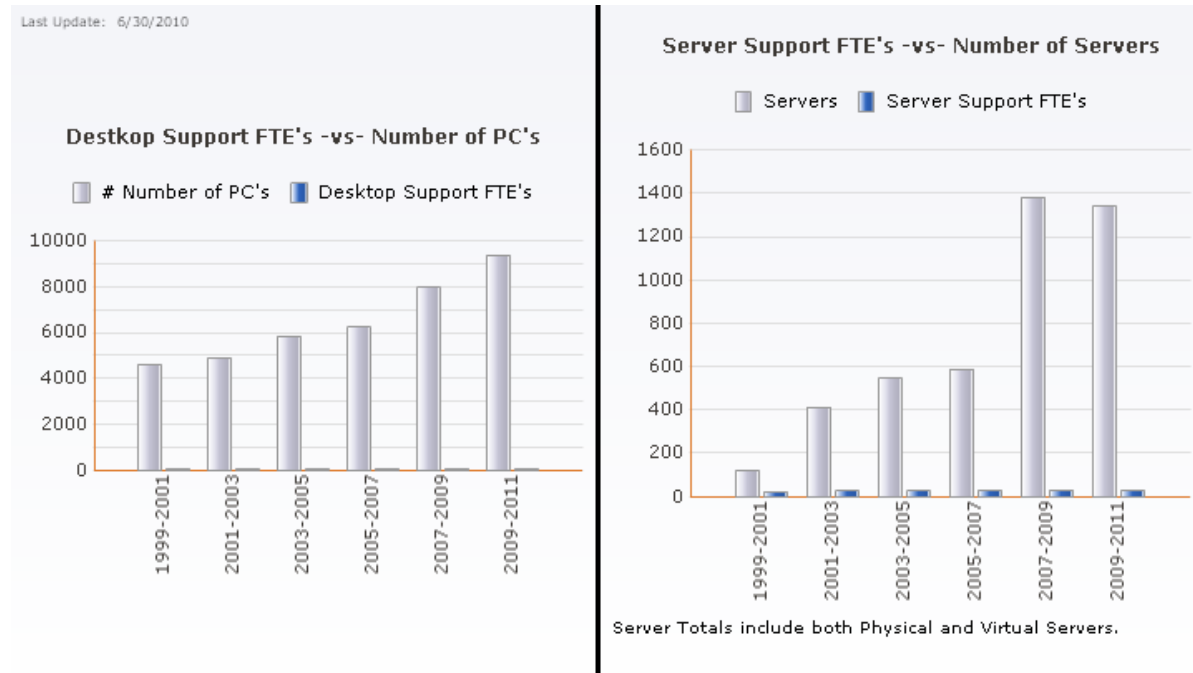


WSDOT has also continued to increase its *online* presence to deliver vital services to the traveling public on the web such as construction project reports, traffic camera images, travel time forecasts and pass information, to name just a few of the services provided.  These have quickly become essential services to the public — not just nice to have.  Technology is at the bedrock of WSDOT work and services.  It takes a reliable network of hardware, software and technology professionals to keep the systems, services and supporting infrastructure running to support WSDOT business needs. Investments in personnel need to grow proportionally to the amount of hardware and software being maintained.

## Current Technology Challenges Faced by WSDOT

As the agency's workload increases due to the demands of implementing the $15 billion capital construction program, Legislative changes (ESSB 3871), Furlough bill (SSB 6305) and Hiring freeze bill are impacting all core technology services.  Technology resources are finite and have not increased correspondingly with the department's growth and project delivery demands.

This chart shows the growth in overall WSDOT FTEs to the constant level of IT FTEs;
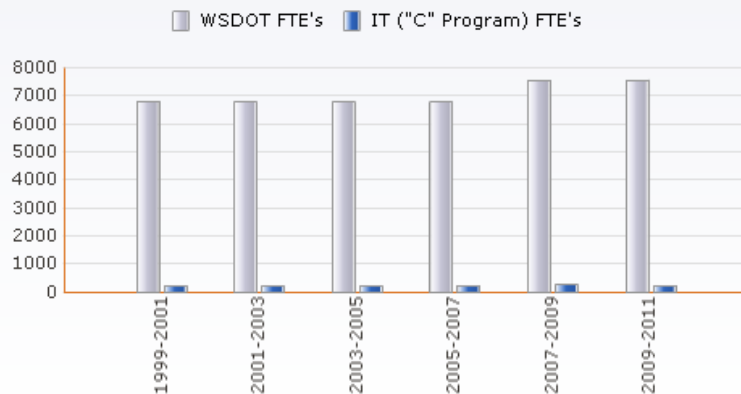


These two charts depict the ration of WSDOT FTEs to C Program IT FTEs and the Gartner average for state government;
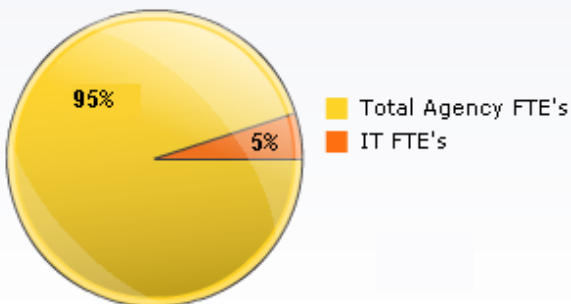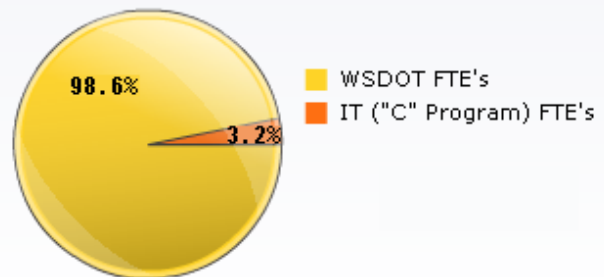


*Gartner offers the combined research capability of 1,200 research analysts and consultants who advise executives in 75 countries every day. Gartner publishes tens of thousands of pages of original research annually and answer 200,000 client questions every year.  They are a world recognized company for IT research.

## Other IT Challenges

The other challenges facing the Office of Information Technology include;

- Providing technology services on an aging infrastructure where growth is outpacing the ability to meet demand.  Funding cuts for IT infrastructure will result in an inability to maintain the current level of support. This includes continuing to manage dramatic increases in workload while meeting the operational demands of delivering comprehensive core technology services for the agency.  Utilizing virtual technology platforms has helped in the shortfall as we strategize how to meet the increasing needs of WSDOT without the support through funding.
- Balancing the agency's technology support needs while delivering WSDOT's new technology initiatives.  The following initiatives were highlighted in the WSDOT 2008 IT Portfolio.  The results of the '09-'11 budget reductions are shown:
  - Critical Applications Modernization & Integration Strategy - **not funded '09-'11**.
  - Enterprise Architecture Program – **not funded '09-'11**
  - Statewide Government Network (SGN) Reconnect– **not funded '09-'11**

- Ensuring WSDOT can adapt and use the best of rapidly changing technologies while meeting the agency growing business needs and technology service demands.  This includes key agency technology capabilities such as Tolling, Web Services (traffic cameras, traveler information), Data Security, Network Access/Connectivity, Voice/Video technologies and Geographic Information Services.

## What WSDOT IT Needs to Succeed

Success for information technology is measured by how effectively and efficiently IT organizations meet the needs of their constituencies, either internal or external. From a financial perspective, information technology success is focused on Cost Effectiveness – How efficiently the IT organization use IT expenditures, and Value – The value information technology provides to the agency. However, IT **must be funded adequately** to be cost effective and to provide increasing value. Extended under-funding will, in the long term, reduce cost effectiveness and value to the agency. The current underfunding will result in old software that fails to work and old hardware that is obsolete.  The results of this decline in capability will ultimately result in citizens losing confidence that WSDOT can support their needs.

Success is also measured by the ability of information technology organizations to provide quality services, the effectiveness of the service delivery, and overall customer service and satisfaction. From a customer and constituent perspective, information technology success is focused on:
- ability of IT organizations to provide dependable, accurate, and consistent product/service delivery;
- ability of IT organizations to provide prompt product/service delivery and to engage in continuous communication; and
- the ability of IT organizations to meet customer and stakeholder expectations.

Efficient service delivery and customer satisfaction are the results of the ability of IT organizations to identify key processes at which they must excel and then to monitor those processes to ensure that outcomes will be satisfactory. The use of the OIT dashboards is contributing to this management capability. From the internal process perspective, Information Technology success is focused on: infrastructure planning, acquisition, operations, and maintenance; application planning, integration, acquisition/development, testing, support, and maintenance; data consistency, availability, reliability; project management; and productivity tools available and used. One of the processes requiring immediate attention is effective prioritization of investments/projects to deal with competing demands for limited IT resources.

Processes will only succeed if adequately skilled and motivated staff supplied with accurate and timely information, are driving them. Additionally, executive management must take a key role in the prioritization of IT projects. In order to meet changing requirements and customer expectations, staff may be asked to take on new responsibilities, and may require skills, capabilities, and technologies that were not available before. From an innovation and learning perspective, information technology success is focused on: **Training** - Ability of staff to support accomplishment of organizational goals; **Innovation** - Quality of information technology solutions; and **Organizational Alignment** - Effects of IT organizational alignment in accomplishment of organizational goals.

## Opportunities for Data or Resource Sharing

WSDOT currently shares GIS, Accident, Environmental, Real Estate, and other data with other state and local government entities, as well as actively participating and providing layers of GIS data to the inter-agency portal. Additional opportunities for data sharing should be exploited with improved data standards and procedures, as well as additional funding for staff and other needed resources.

Internal data sharing continues to strive through datamarts.  By creating data warehouses of information, multiple systems can contribute to the data and staff can use cubic drill-down reports or features to retrieve linked data.  Since 2002 with the CPMS datamart, the need to interconnect database information

into data marts has resulted in 15 datamarts which tie multiple systems worth of information into useable reporting options without creating additional collection systems.

## How WSDOT Contributes to the State IT Plan

WSDOT develops IT plans within the context of the Washington State IT Strategic Plan. Wherever it makes business sense, WSDOT takes the opportunity to support the state IT strategic planning effort. In addition, WSDOT contributes to the establishment of statewide direction by participating on various statewide focus groups.  Examples of the support WSDOT provides to the state is  participation in the State Enterprise Architecture Committee (WSDOT CIO is on the committee) and the State IT Portfolio Manager's Group (working on a better way of building the state IT Portfolio). WSDOT continues to work closely with DIS (SGN Re-connect Project) and was working with the previously funded OFM Roadmap Project for enterprise IT projects.

WSDOT received additional funding in the amount of $1,088,000.00 to implement a Multiprotocol Label Switching (MPLS) and security suite of tools to meet PCI compliance standards.  WSDOT is in the planning process of designing the network segmentation and preparing an equipment list of devices that will be required to build out this network segment.  Review of Security Incident and Error Management (SIEM) products and file management programs is underway to select the best products to support this new Payment Card Industry (PCI) environment.  PCI compliance will drive a continuous review process in order to maintain compliance with an ever evolving security environment.

## Solutions: Current & Future IT Investments

Sections 4 & 5 explore current (Section 4 – funded and on-going) and future (Section 5 - unfunded) IT investments in terms of achieving business objectives, critical success factors, and how IT is addressing challenges, along with overviews of current and planned investments.  Only investments that are determined to be Level 2 (exceed $1 million and have a moderate severity and risk assessment) and Level 3 (exceed $5 million with a high severity and risk assessment) are reported in the IT Portfolio.  Level 2 investments require review and approval by the Department of Information Services.  Level 3 investments require review and approval of the Information Services Board.

## How WSDOT Can Achieve Its Business Objectives Now and In the Future

WSDOT can apply information technology to achieve its objectives by:
- Building and maintaining applications that are well integrated, flexible and designed to meet business needs and provide seamless, efficient access to mission critical information.
- Leveraging assets within WSDOT and the state for the Time, Leave, and Labor Distribution (TLLD) System.  First internally with the Ferries requirement and then externally with other agencies with OFM for a TLLD system.
- Managing data as a valued agency resource.
- Leveraging new technologies to support and improve the delivery of WSDOT's programs.
- Optimizing the use of web technology to facilitate e-business and to provide two-way communication with WSDOT's customers, business partners, employees and citizens.
- Ensuring the security and reliability of all of WSDOT's information technology products and services.
- Ensuring that WSDOT is accountable for the efficient, effective management of its information technology resources.
- Working with other state agencies and DIS to share ideas, investments, and knowledge.
- Continuing to improve Continuity of Operations Planning (COOP) efforts, business continuity (BC) and disaster recovery (DR) plans for mission critical applications, supporting servers, required databases and network infrastructure.  The priority of recovery is a business decision that OIT supports.

- Considering economic realities of DIS consolidation (WSDOT mainframe and servers support) and utilizing DIS shared services.
- Our involvement is in PCI Data Security Standards (DSS) which give us the standards by which we secure the systems related to the acceptance and processing of credit card for the services our agency provide to the public. Complying with these standards or rule sets lets people know we are applying due diligence to protecting their financial information.
- Consideration of Cloud Computing infrastructure delivering services through common centers.
- Continuing process improvements reviewing operational practices/policies and procedures.
- Continuing focusing on IT Key Performance Indicators (KPI's) and improved service delivery.

## How Challenges Will Be Addressed

Challenges will be addressed by integrating project delivery information systems, revitalizing application development, strengthening infrastructure security, enhancing network reliability, consolidating data management, providing a new focus for project management, reducing the cost of hardware, and enhancing software management. OIT will continue to search for ways to reduce costs while improving services. Specifically OIT will:

- Continue to **standardize** where appropriate and use economies of scale to gain efficiencies in technology service delivery, statewide.
- Implementation of industry **best practices** in service management including resources management, resource use and planning. Implement effective software tools to support service delivery and management objectives.
- Effectively **communicate agency technology needs** in the legislative forums and utilize the supplemental and biennial decision package processes to request funding in support of priority technology initiatives.
- Continue to monitor and **manage projects** through the OIT Project Management Office with reporting to agency executives. This is in conjunction with the oversight and monitoring of large, complex projects provided by DIS and the ISB.
- Make the **best use of limited FTEs** to support the new technology initiatives.
- Use contract staff to **supplement** WSDOT resources.
- Continue to implement a supporting **technology foundation** to reduce the cost of change and will support the agency's existing business applications and newly developed systems such as the Critical Applications Replacement Project.
- Maintain an Information Technology **organizational structure** that can support agency's priorities and have long-term sustainability.
- Invest in **staff development**, training and core competencies.
- Implement **software tools** to help improve efficiencies in program delivery.
- Investment in e-tools, e-learning and remote computing
- Increased utilization of Virtual servers and desktops
- Increased monitoring and identification of KPI's, focusing on areas which have opportunities for improved service delivery.

## Current Investments/Projects

Investments / projects enable WSDOT to meet the demand for IT beyond the ongoing IT services. Current investments/projects (funded & ongoing) are listed below. For additional information see Section 4 of this portfolio.

| Investment/Project | Oversight Level |
| --- | --- |
| Washington Transportation Framework for GIS (WA-Trans) | Level 2 Oversight |
| Ferries Employee Dispatch System Replacement (WINDS) (Scheduled for completion Fall 2010) | Level 2 Oversight |

| | |
|---|---|
| Storm-water Information Management System (SWIM) | Level 2 Oversight |
| Tolling & Statewide Tolling Customer Service Center | Level 2 Oversight |
| Ferries Regional Fair Coordination System (RFCS including integration with Smartcard) | Level 2 Oversight |
| Ferries Vehicle Reservation System (Presented to ISB on 7/8/2010) | Level 3 Oversight |

## Planned Investments/Projects

Planned Investments/Projects are projects that have not yet started but initial work has started to define the project and where appropriate obtain investment approval. Planned investments/projects are found in section 5 of this portfolio.

| Investment/Project | Oversight Level |
|---|---|
| Planning for the next phase of the Critical Applications Replacement Program | Pending Level 2 Oversight **(Not funded)** |
| SGN Re-connect (Currently in preliminary discussions with DIS on Progress) | Level 2 Oversight **(Not funded)** |
| Traffic Operations Performance Monitoring & Management System | Pending Level 2 Oversight **(Not funded)** |

**Projects Completed Since Last IT Portfolio Update**
Investments/projects that have been completed are shown below.  Post Implementation Reviews (PIRs) will be added to section 6 of this portfolio as the PIRs are received.

| Investment/Project | Deployed | Oversight Level |
|---|---|---|
| Project Management & Reporting System (PIR scheduled for 9/2010 per Tom Parma, DIS) | June 2010 | Level 3 |

## Prioritization Process

Screening criteria and prioritization criteria are used to prioritize IT investments. Screening criteria include strong executive support, clear alignment to agency goals, clear benefits for completing the project or acquisition, and the probability of success given the current IT environment. Prioritization criteria include strategic alignment, business value, probability of success, maintainability, urgency, and funding.

## Performance Measurement
WSDOT prepares a semi-annual IT Performance Report, Quarterly Progress Reports (QPR) and Weekly Project Reports. This standard reporting to provides information to improve accountability, enhance IT processes, and educate others about the successes and opportunities for improvement of IT in WSDOT. Measurements, reporting and emphasis will change over time, based on business requirements and the agency's focus on various aspects of information technology.

# 2 - WSDOT Strategic Business Plan

*"If you don't know where you are going, any road will take you there".*

The WSDOT Strategic Business Plan allows the Office of Information Technology (OIT) to ensure that current and proposed technology investments are aligned with the WSDOT business vision for the future and directly supports WSDOT business processes. The strategic direction in WSDOT is laid out in the ***Business Directions: WSDOT's 2009-2015 Strategic Plan.*** For an electronic copy of the complete WSDOT Strategic Plan go to :WSDOT - Business Directions: WSDOT's Strategic Plan.  A summary of key parts of the plan and the alignment of IT strategic planning is contained in this section.  This information has been included in the IT portfolio to help strengthen the bond between the agency's use of technology and its mission, strategies, and business processes.

Performance reporting is provided quarterly in the WSDOT Gray Notebook in support of the WSDOT Strategic Business Plan.  In turn OIT evaluates the IT Strategic Plan on a quarterly basis.

## WSDOT Mission

WSDOT's mission is to keep people and business moving by operating and improving the state's transportation systems vital to our taxpayer and communities.

## WSDOT Strategic Plan

***Business Directions: WSDOT's 2009-2015 Strategic Plan*** identifies the agency management principles, strategic initiatives, and activities to be carried out.

## Management Principles

- Safety – Health and safety of citizens and employees.
- Project Delivery – Quality, lowest total cost, and highest return of value.
- Accountability and Management – Responsibility, efficiencies, leadership.
- Communication – Listen, clarity, sharing.
- Innovation, Best Business Practices, Efficiency, and Effectiveness – Cost effective and efficient transportation systems.
- Long-Term Investment Program – Preservation and improvement.
- OneDOT and Partnerships – Unified organization building coalitions for today and tomorrow.
- Environmental Responsibility – Protect and improve.
- Excellence and Integrity – Professionals working together with all with honesty.

## Primary Business Goals

WSDOT business objectives directly support the Governor's Priorities of Government, specifically "Improve the Mobility of People, Goods and Services" and the Legislature's statewide policy goals established for all transportation agencies. The Secretary of Transportation's defined primary business goals are found in the DRAFT WSDOT 2009-2015 Business Directions document included in this section.

The primary goals are:
- **Safety**: Vigilantly reduce risks and increase safety on all state-owned transportation modes; reduce fatalities and serious injuries; assist local communities in identifying effective solutions to transportation safety needs
- **Preservation**: Catch up with all necessary maintenance and preservation needs on existing highways, bridges, facilities, ferry vessels, airports, and equipment, while keeping pace with new systems additions.

- **Mobility**: Move people, goods, and services reliably, safely, and efficiently, by adding infrastructure capacity strategically, operating transportation systems efficiently, and managing demand effectively.
- **Environment**: Protect and restore the environment while improving and maintaining Washington's transportation system.
- **Stewardship**: Enhance WSDOT's management and accountability processes and systems to support making the right decisions, delivering the right projects, and operating the system efficiently and effectively in order to achieve the greatest benefit from the resources entrusted to us by the public.

## *WSDOT IT Strategic Planning*

The WSDOT IT Strategic Plan supports the WSDOT Strategic Business Drivers. The Draft IT Strategic Plan for '09-'15 is below to provide business users an understanding of how OIT will meet their business requirements over the coming biennia. The plan for '09-'15 takes a more inclusive view than a standard strategic plan. The working plan below includes current operations and projects, near term objectives (tactical plan) and the traditional long term or strategic plan. The IT plan links IT objectives by number to WSDOT business driver objects. The plan provides action steps and responsibilities for achieving current, near term, and future objectives. It includes information as to '09-'11 decision package submissions.

## IT Tactical Plan (2011-13)

The IT Tactical Plan identifies the strategic goals for the 11-13 biennium. These goals and performance measures are:

| GOALS | Objectives | Strategies | Action Steps | Performance Measures |
|---|---|---|---|---|
| 1) Manage information systems required to support the agency's operational and strategic objectives (What we have). | 1. A. Provide IT Infrastructure that supports agency business requirements. (1.7(b), 2.5(c), 5.3) | 1. A.1. Determine optimal equipment replacement cycles. (Servers, network, PCs). (DP '11-'13) | c. Determine risk assessment criteria for keeping equipment beyond expected lifecycle. | Conduct risk assessment. |
| | | | d. Target replacements towards specific projects. Target Business Areas to co-sponsor our DP. (i.e., CMS, SWAMP, ECM, PCI Compliance, etc) * DP could include network equipment and regional equipment (hardware, software and staff). Note: Cross sectional projects need additional PM planning. | DP submitted |
| | | 1.A.2.B: Plan for implementation of SQL 2010 | | |
| | | 1.A.3. Migrate CMS to SharePoint 2010 | Develop evaluation and migration plan. | Deploy SharePoint 2010 if it is the best technical solution |

| | 1. B. Provide networks for voice and data communication. (1.8, 2.12, 5.3) | 1. B.3. Connect to the SGN | c. State Government Network (SGN) Re-connect project with DIS.<br><br>(July 2012 is deadline to have everything ISB compliant.) | Correct security issues for ISB |
|---|---|---|---|---|
| | | | d. PCI Compliance deadline is ASAP. PCI Compliance is on-going with yearly reviews. | PCI compliance |
| | | 1.B.4. Deploy a Hub and Spoke Topology for availability, throughput and functionality. | Request from Ferries for mesh network for funding 12-16. Need a whitepaper/ DP. (Murry Larson bill) | Establishment of a redundant network capability for Ferries. |
| | 1. C. Ensure critical systems and services to support WSDOT business needs are available in a disaster. (1.8) | 1. C.1. Ensure a comprehensive DR plan is in place, understood, and updated annually or as changes take place.(Applications, infrastructure, data) Whitepaper based on emergency operations | c. Establish DR mission requirements, staff requirements & define positions. | White paper and DP submitted '11-'13. |
| | | | d. Partner with Customers on DR. Target with specific business programs to support DR. | |
| | | | e. Align with COOP plan Emergency operations and DR. | |
| | | | g. Consideration of Union Gap as a facility | |
| | | | h. Review the order of applications to restore within DR. | |
| | | | i. Provide and maintain an emergency data repository for emergency Operations Center (EOC). | Date repository available and updated as required. |
| | 1. D Provide up to date and documented policies, standards, and procedures. (5.3) | 1. D.1 Operate with current policies, standards & procedures. | a. Review policies, standards, and procedures as required. | All standards are updated as required. |
| | | | | |
| 2) Provide technology services and tools that support and maintain agency operations and project delivery goals.(What we provide) | 2. A. Implement industry best practices for continuous improvement in service management and delivery. 5.3 | 2. A.1. Implement ITIL staffing, processes & procedures | b. Determine which best practices fit WSDOT IT | # of best practices being developed to the # being used. |
| | | | c. Determine training requirements for IT personnel on ITIL | # of personnel trained on ITIL versus the # IT personnel assigned. |
| | | | d. Document system | # of |

| | | | | |
|---|---|---|---|---|
| | | | dependencies (The CMDB incorporates the interdependences as well as the COOP, DR, Security & Portfolio.) | dependencies documented |
| | | | e. Develop a draft service catalog (staffing, equipment, services, overhead functionality, etc) for the agency. | |
| | | | f. Time & Task Management reporting is needed to determine the resource matrix for estimating and who is spending time on which systems/programs. Whitepaper on system | |
| | | | g. Develop SLA's after implementation to identify the maintenance costs (staff, equipment, software, etc). | |
| | 2.B. Maintain a trained, knowledgeable, and qualified staff.5.5 | 2. B.1. Develop career paths for ITS levels. | c. Document standard procedures (desk manuals or online standard procedures for every position.) | # of procedures documented to # not documented |
| | | 2 B 2. Train Developers to .Net Framework 3.5 & w/Windows Identity foundation (or recruit employees with these skills). | a. Develop plan for implementation of .NET Framework 3.5, Windows Identity foundation and migration of current .NET applications. | Plan for Training staff in current technology. |
| | | | b. Plan for training developers on .NET framework 3.5 and Identity foundation. | |
| | | | c. Add to development standard. | |
| | | 2. B.3. Develop a succession plan with cross training requirements. | a. Publish plan with cross training requirements. *Note:* Succession plan is emergency replacement for a position. *Note:* Developmental plan is planning for future skill sets and positions for supporting new services. | Plan is updated as personnel change in OIT and new personnel are cross trained. |
| | | | b. Organizational structure with staffing plan is needed for HR. Identifying the appropriate staffing model for supporting our services. | Review and update OIT organization. |
| | | | c. Creating structure around making changes to the staffing model. And communicating the changes along with the decisions for the new staffing model. (Equity issues which effect morale.) | Change organization as required. |

| | | | | |
|---|---|---|---|---|
| | 2. C. Continuously optimize quality, effectiveness & efficiency of infrastructure, systems, and services.<br>2.10, 3.4, 5.3 | | b. Implement contacts similar past Acct. Executives process (concept) - | Requires additional FTE's for single point of contact. Current collection of business needs is being done informally with Application Developers and Desktop support staff. |
| | | | c. Develop the Account Executives planning template on duties / responsibilities and objectives. | |
| | | | d. Identify the current staff assignments with the customers. (Which staff are working with which customers and on which area of IT) (Tim C.) | |
| | | 2. D.4. Develop a project prioritization process. | a. Implement & document a project prioritization process. Review the priority process (from the CAG) and update as needed. | % of projects that have gone through the prioritization process. |
| | | | b. Get executive approval for process (Every charter has assistant secretary and management approvals.) | Priority process approved by executive team. |
| | 2.E. Provide timely, consistent information to WSDOT about our IT assets, systems and services.5.3, 5.10(b) | 2. E.1. Ensure alignment of data with key business areas. | b. Establish Data Stewardship Council. | Date reinstated and meetings actively underway. |
| | | | c. Data Sharing agreements process needs to be documented and communicated. DRM works with Contracts staff for external data sharing agreements. | Date agreement process is approved. |
| | | | d. ISB recently adopted new data standards and data modeling structures. Need to verify alignment with new standards and participate with this group. | Date verification is complete. (this appears to be current ops) |
| | | 2.E.2. Plan for replacement of Hyperion for Data Warehouse Users (Needed due to | a. Develop a timeline for the replacement project. | Date plan is complete. |

| | | | | |
|---|---|---|---|---|
| | | replacement by Oracle of Hyperion with another product.) | b. Initial planning for replacement 2011-2013. | |
| | 2. F. Identify technology that enhances the productivity of every WSDOT employee. 5.10(b) | 2. F.2. Provide IT training to WSDOT | a. Deploy on-line training for ITE-Learning tools | Number of personnel trained using E-learning |
| | | 2. F.3. Provide a "self-service" process for routine IT needs of employees | a. Establish on-line support to resolve end-user problems. (Better service at less cost!) | # of issues resolved |
| | | | b. Building up the "How-to" and knowledgebase system within Remedy for those items which the customer can do for them-selves on-line. | "How to library", other methods provided |
| | | | c. Research tools available for self-service. (i.e., resetting passwords, scheduling phone bridges/go-to meetings, etc., that results in reducing IT costs.) | |
| | 2.G Provide IT security for WSDOT IAW new Standards by 2012 | 2.G.1 Provide WSDOT plan to ensure compliance – agency wide by July 2012 | b. Determine composition of the initial response team to handle malicious code attacks (ISB requirement) | Team established |
| | | 2.G.3 Execute plan to ensure Security Standards are met | a. Execute to plan | Compliance by 2012 |
| | | 2.G.4. Implement IBM Mainframe Security Migration (ACF2 -> RACF) | a. Conduct needs assessment for how much longer a mainframe will be needed.<br><br>b. Develop plan and white paper for migration for consideration. | Conduct an assessment of services including feasibility study, CBA, business plan and staffing plan for Mainframe (sustainability plan) in 2011-2013.<br><br>Include alternative options such as migrating to SQL, Intel based ADABAS, etc. |
| 3) Develop and maintain IT that is reliable, adaptable, scalable, and | 3. A. Provide a robust and agile architecture to meet current and future needs of WSDOT in support of business initiatives. | 3. A.1. Continue Enterprise Architecture (EA) program. Supplemental FY 10 being submitted to continue | a. Implement Service Oriented Architecture (SOA) | Scope, schedule, & budget met by EA. |

| | | | | |
|---|---|---|---|---|
| driven by WSDOT business requirements.(How we move forward) | 2.12, 3.5 | program at a reduced level. | b. Maintain alignment with DIS compliance and industry practices. | Web Service registry has been created and needs on-going updating. |
| | | | c. Interface with DIS services and standards. in the. | Include infrastructure group with service bus or other services such as integration with DIS. |
| | | | d. In partnership with OFM, pilot the implementation of a TLLD System replacement -Phase 1 Ferries.;  Phase 2 agency-wide.(Need whitepaper) | Develop solution for TLLD System (in tactical plan). |
| | | | e. Research the possibility of purchasing a SAP software package for support of SOA. | Start defining the interfaces to WSDOT core systems. |
| | | | f. Develop and implement Phase I of a Transportation Asset Management System (TAMS) | Implementation of Phase I solution (in tactical plan) |
| | | | g. Submit Whitepaper for TRIPS – the next generation see 3.A.2) | TRIPS scope, schedule, & budget met per project plan. DP '11-'13) (included in TAMS DP 3.A.1.e) |
| | | 3. A.4. Improve business partnership with various organizations to better coordinate future IT requirements for any other IT providers in WSDOT. | a. Establish agreements with other IT agencies (MOUs, SLAs, OLAs) with appropriate organizations. | # of agreements signed versus # to be signed. |
| | | | b. Align with GIS, CAE, TDO, Maintenance & Operations, MATS lab and regional areas within WSDOT. | # of agreements signed versus # to be signed. |
| | | 3. A.6. Evaluate the viability of one Enterprise Content Management (ECM) system. | a. Select possible ECM solutions  ( use of enterprise Stellent agreement? ) | One ECM system selected if business requirements can be met. |
| | 3. B. Provide innovative IT solutions to provide personalized access for customers (to include the public). | 3. B.1. Investigate state-of-the-art technology that provides information portal for all.  WSDOT Portal and roaming profiles (WSDOT employee) and personalized profile on the public intranet for a personalized experience.. | a. Set up team with charter, members, and executive oversight.  Move to Strategic plan (2013-2015) | # of innovative solutions adopted versus explored |

| | | | |
|---|---|---|---|
| 3. C. Provide IT systems that support green initiatives and responsible stewardship of the environment.<br>4.1, 4.3 | 3. C.2. Increase public availability of transportation information on the web. | d. Ferries Reservation Project<br><br>(Terminal configuration and signage. Phase 1 complete in early 2011-13.) | Scope, schedule, & budget |
| 3. D. Develop a comprehensive process for developing and sustaining the C program budget.5.5 | 3. D.1. Work with WSDOT Budget Office to document current processes. | a. Document what is C program funded and what isn't | Date of documentation of C program funding |
| | | b. Follow process to adjust base budget. | Date process for adjustment is published |
| 3.E. Identify new and existing tools/ applications developed by industry that may meet WSDOT business requirements.2.12, 5.3 | 3.E.1. Establish GIS Server environment and governance | a. Develop Enterprise design of GIS. (Effort being led by Mark Finch, Rich Daniels, Alan Smith) | |
| | | b. Develop white paper to enhance our GIS environment for staffing and software licensing. | |
| | 3.E.2.. Evaluate the use of "cloud" computing | Evaluate & Implement services TBD<br>Improve Web Availability<br>FTP<br>Storage<br>Archive | |
| 3. F. Review all applications (other than 14 critical apps) and determine replacement requirements.<br>2.12, 5.3 | 3. F.1. b. Develop list of applications for decommissioning and develop plan for replacing old technology. (Dust off the Y2K plan / process for decommissioning applications and update for current operation / maintenance best practices.) (application cut-over must include data migration!) | a. Replace or decommission aging applications | Number decommissioned |
| | | c. De-commission Cold Fusion – decommission old applications no longer in use. | Develop de-commissioning plan for Cold Fusion with Jeremy. |

# IT Strategic Plan (Beyond 2013)

The IT Strategic Plan identifies the strategic goals for beyond 2013. These goals and performance measures are:

| GOALS | Objectives | Strategies | Action Steps | Performance Measures | Baseline |
|---|---|---|---|---|---|
| 1) Manage information systems required to support the agency's operational and strategic objectives (What we have). | 1. B. Provide networks for voice and data communication. (1.8, 2.12, 5.3) | 1.B.1 Maximize benefits of mobile technology | a. Develop data policy and direction for supplying the public with mobile data availability. (Our data in a consistent format for others to develop I-apps.)<br>b. Determine IT policy decision and strategic direction on developing Mobile application platforms internally to WSDOT. | Develop policies for Grant to move forward to Assistant Secretaries. | |
| | 1. C. Ensure critical systems and services to support WSDOT business needs are available. (1.8) | 1. C.1. Ensure a comprehensive DR plan is in place, understood, and updated annually or as changes take place.(Applications, infrastructure, data) | c. Train all IT on existing plan. MOVE TO 13-15 | % trained | 5% |
| | | 1.C.2. Continued support for critical applications | d. Replace the current IBM 1620 mainframe with a new IBM z/10 BC Configuration. | 1. Continue to provide a solid platform for legacy applications 2. Decreased hardware maintenance costs 3. Vendor supported hardware 4. 3-year ROI and reduced TCO over 5 years 5. Utilization of additional features | |
| 2) Provide technology services and tools that support and maintain agency operations and project delivery goals.(What we provide) | 2. A. Implement industry best practices for continuous improvement in service management and delivery. 5.3 | 2. A.1. Implement ITIL staffing, processes & procedures (Endorse ITIL by an office IT Project with resources & Project Manager.) | a. Determine staff requirements and submit decision package for an ITIL project manager and support resources to get ITIL up at WSDOT. | Date staff hired. | |
| GOALS | Objectives | Strategies | Action Steps | Performance Measures | Baseline |

| | | | | | |
|---|---|---|---|---|---|
| 3) Develop and maintain IT that is reliable, adaptable, scalable, and driven by WSDOT business requirements (How we move forward) | 3. A. Provide a robust and agile architecture to meet current and future needs of WSDOT in support of business initiatives. 2.12, 3.5 | 3. A.1. Continue Enterprise Architecture (EA) program. Supplemental FY 10 being submitted to continue program at a reduced level. | f. Develop and implement Phase II of a Transportation Asset Management System (TAMS)<br><br>Move to strategic plan. (Depending on funding) | Implementation of Phase II (in tactical and Strategic Plan) | |
| | | | g. Develop and implement with OFM an integrated Enterprise Resource Planning (ERP) System for state WSDOT as lead for state<br><br>Move to strategic plan. (in partnership with OFM.) | Requirements definition and acquisition planning activities (in tactical and strategic plan) | |
| | | 3.A.2 Update Core WSDOT Systems following EA established principles for applications, data, and integration. | a. Replace 14 critical applications<br><br>Except for trips and 2 others (LRS & ?) move to strategic plan. | TRIPS scope, schedule, & budget met per project plan. DP '11-'13 (included in TAMS DP 3.A.1.e) | |
| | | | b. Consistent with funding align current & future financial applications with OFM Roadmap in identified phases and in coordination with the OFM Roadmap for financial systems and 2.12 | # of financial applications aligned with OFM Roadmap | 0% |
| | | | d. Phase replacement of critical applications that are not on the OFM Roadmap.<br><br>Move to strategic Plan. | # of critical applications that are scheduled that are not on the OFM Roadmap. | |
| | 3. B. Provide innovative IT solutions to provide personalized access for customers (to include the public). | 3. B.1. Investigate state-of-the-art technology that provides information portal for all.<br><br>WSDOT Portal and roaming profiles (WSDOT employee) and personalized profile on the public intranet for a personalized | a. Set up team with charter, members, and executive oversight.<br><br>Move to Strategic plan (2013-2015) | # of innovative solutions adopted versus explored | |

| | | | | experience.. | | |
|---|---|---|---|---|---|---|
| | | 3.B.2 Embrace Web 2.0-Social Networking<br>- Instant mgs sag/lvl<br>- Facebook<br>- Twitter<br>- Blog<br>- Other?<br>Integrate into business | Develop policy and standards for adding social networking capabilities as needed for supporting WSDOT Business.<br><br>Incorporate security, business usage issues and producing litigation reporting. | SAO has given responsibility to individual agencies for policy.<br><br>Additional CAL's needed for Web 2.0.<br><br>Allowing blogging discussions from external sites which are being used for legislative decision package decisions. | | |
| | | | | | | |
| **GOALS** | *Objectives* | *Strategies* | *Action Steps* | *Performance Measures* | *Baseline* |
| **GOALS** | *Objectives* | *Strategies* | *Action Steps* | *Performance Measures* | *Baseline* |
| | | Train Staff on Service-Oriented Architecture – Design & Build | Plan for training developers on SOA. | Plan for Training staff in current technology.<br><br>Need follow-up session to discuss COTS/independent platform principles to agree upon. | |
| | | Productionalize UDDI 3 (Universal Description, Discovery and Integration) for cataloging web services | Plan for Training staff in current technology. | Need follow-up session to discuss COTS/independent platform principles to agree upon. | |
| | | | Identify the WSDOT IT development strategy and direction. | Prioritize any platform independent scripting language and UDDI 3 standards prior to training. | |
| | | Train staff on a standard, platform independent scripting language (PHP or Ruby) | Plan for training developers on platform independent scripting language. | Plan for Training staff in current technology.<br><br>Need follow-up session to discuss COTS/independent platform principles to agree upon. | |
| **GOALS** | *Objectives* | *Strategies* | *Action Steps* | *Performance Measures* | *Baseline* |

# 3 – 2010 Technology Infrastructure

*"Design is not just what it looks like and feels like. Design is how it works."*

Technology Infrastructure defines the current inventory of systems, defines their functionality, describes the architecture and provides the core of IT capacity for the current period. It also addresses operating environment requirements including planning related to IT security and continuity of operations planning (COOP), business continuity (BC), and disaster recovery (DR). It also includes an inventory of specific components in the agency's IT infrastructure.

An agency's technical infrastructure is a platform for future technology investments and a constraint limiting the investments that can be cost-effectively pursued. Failure to continually update infrastructure/equipment replacement in a timely manner will result in an increase of obsolete systems on platforms that are only maintained at a very high and increasing cost. This section of the portfolio provides a convenient reference for executives engaged in planning and managing the agency's use of IT.

This section is broken down into the following subsections:
    a.  Current and Projected IT Budget
    b.  IT Personnel
    c.  Personal and Workgroup Computing (Personal Computers)
    d.  Personal and Workgroup Computing (Servers)
    e.  Personal and Workgroup Computing (Networks)
    f.  Geographic Information Systems Resources
    g.  Computer Aided Engineering Resources
    h.  Security
    i.  Continuity of operations planning/Business Continuity/Disaster Recovery Planning
    j.  Public Access
    k.  Application (Systems) Information
    l.  Database Information
    m.  Critical Datasets
    n.  Platform and P-25 Compliance

## a. Current and Projected IT Budget

These tables show the combined IT Budget for the Office of Information Technology, Washington State Ferries, and Regional IT. This budget is administered under program C. The budget does not include the Business Unit IT budgets.

|  | Hardware Purchase/ Lease | Software Purchase/ Lease | Hardware Repairs/ Maintenance | Software Enhancement/ Maintenance |
|---|---|---|---|---|
| FY 2007 Actual | 5,078,300 | 1,134,143 | 5,298 | 4,914,525 |
| FY 2008 Budget | 5,450,000 | 0 | 0 | 4,213,000 |
| FY 2008 Actual | 2,972,321 | 1,193,484 | 9,810 | 4,046,538 |
| FY 2009 Budget | 7,734,000 | 0 | 0 | 4,381,000 |
| FY 2009 Actual | 4,624,954 | 1,024,933 | 42,455 | 7,655,967 |
| FY 2010 Budget | 4,043,000 |  | 1,228,000 | 3,895,000 |
| FY 2010 Actual | 4,441,975 | 356,965 | 740,822 | 4,377,473 |
| *FY 2011 Budget | 6,475,000 |  | 987,000 | 2,838,000 |
| FY 2012 Budget | 4,240,813 | 340,800 | 707,272 | 4,179,233 |
| FY 2013 Budget | 4,211,878 | 338,474 | 702,447 | 4,150,717 |

*Note:  FY2011's increase in budgeted hardware is a combination of:  The "Replace Ferries Ticketing Equipment" and "Network Security for Credit Cards" provided in the 2010 Supplemental Budget account for the majority of increase ($1.7 million).*

Continued from previous page:

| | Telecomm | Data Processing Services (DIS) | Other Major IT Expenses | Total Agency IT Budget |
|---|---|---|---|---|
| FY 2007 Actual | 1,521,065 | 283,244 | 1,184,931 | 34,927,660 |
| FY 2008 Budget | 1,465,000 | 180,000 | 722,000 | 41,375,000 |
| FY 2008 Actual | 1,272,927 | 236,244 | 553,848 | 36,969,127 |
| FY 2009 Budget | 1,725,000 | 217,000 | 852,000 | 45,445,000 |
| FY 2009 Actual | 570,961 | 305,127 | 801,477 | 45,699,469 |
| FY 2010 Budget | 1,007,000 | 248,000 | 796,000 | 37,675,000 |
| FY 2010 Actual | 822,837 | 201,488 | 825,184 | 37,610,238 |
| FY 2011 Budget | 1,229,000 | 238,000 | 574,000 | 36,792,000 |
| FY 2012 Budget | 785,574 | 192,363 | 787,814 | 35,907,000 |
| FY 2013 Budget | 780,214 | 191,051 | 782,439 | 35,662,002 |

## b. IT Personnel

The tables show IT Personnel for the Office of Information Technology, Washington State Ferries, and Regional IT. The table does not include FTEs working on IT activities in various Business Units.

| | Salaries & Benefits | Personal & Purchased Services | Professional Development of IT Staff | Total Agency IT FTEs |
|---|---|---|---|---|
| FY 2007 Actual | 17,635,863 | 3,549,767 | 356,319 | 222.3 |
| FY 2008 Budget | 24,621,000 | 4,385,000 | 339,000 | 249.4 |
| FY 2008 Actual | 21,690,960 | 4,573,366 | 419,629 | 235.0 |
| FY 2009 Budget | 25,025,000 | 5,049,000 | 462,000 | 254.4 |
| FY 2009 Actual | 22,737,416 | 7,728,121 | 208,058 | 243.8 |
| FY 2010 Budget | 23,295,000 | 3,222,000 | 154,000 | 239.3 |
| FY 2010 Actual | 23,412,915 | 2,322,140 | 108,438 | 243.7 |
| FY 2011 Budget | 23,364,000 | 898,000 | 189,000 | 210.7 |
| FY 2012 Budget | 22,352,625 | 2,216,979 | 130,527 | 232.7 |
| FY 2013 Budget | 22,200,109 | 2,201,852 | 102,821 | 235.9 |

## c. Personal Computers

WSDOT will be at our 5-year replacement cycle by June 2011.  However, due to freeze on equipment purchases and the state's financial crisis, these may not all get replaced.  The current refresh cycle is 48 months for laptops and 60 months for desktop equipment purchase freeze may prevent WSDOT from meeting the cycle.  Due to the state's financial crisis, some of WSDOT's PC's maybe forced into a 6 year replacement cycle.

| FY | Total Agency FTEs | Total PCs | Planned PC Replacements FY11 | Refresh Cycle | PCs Donated to Schools |
|---|---|---|---|---|---|
| FY2011 Actuals | 7507.13 (Total WSDOT FY2010 Budgeted FTEs.) | 9366 Total PC, Laptop & Tablet PC's which are supported by desktop services. (Includes consultant | 3499 | 48 months is planned cycle for laptops and 60 months for desktop equipment | 432 PC's were donated in FY10 for a total potential cost savings to Schools of $ 1,297,132 WSDOT has surplused 4738 PC's to Schools since 2000 |

| FY | | Total Number of Servers | Number of Servers to be Replaced FY 11 | Number of Servers Planned to be Added FY11 | Factors Driving Server Acquisition Strategy |
|---|---|---|---|---|---|
| FY2012 Planned | | 9403 | 2746 | | 48 months is planned cycle for laptops and 60 months for desktop equipment purchase freeze may prevent WSDOT from meeting the cycle. |

| | | support PCs) | | | |
|---|---|---|---|---|---|
| FY2012 Planned | | 9403 | 2746 | 48 months is planned cycle for laptops and 60 months for desktop equipment purchase freeze may prevent WSDOT from meeting the cycle. | WSDOT's policy is to surplus the majority of our equipment to GA |
| FY2013 Planned | | 9404 | 1891 | 48 months is planned cycle for laptops and 60 months for desktop equipment purchase freeze may prevent WSDOT from meeting the cycle. | WSDOT's policy is to surplus the majority of our equipment to GA |

## d. Servers

This year's reduction in the amount of servers being used can be directly related to continuing efforts by staff in all regions to decommission servers running unused services, consolidation, and migrating older physical machines to WSDOT's virtual server environments. There have been major efforts agency wide to improve storage and virtual environments that will allow WSDOT to further decrease the amount of physical servers agency wide. The OIT goal for virtualization of servers in the HQ regional headquarters is 50% by the end of CY 2010 and 60% by the end of FY 2011.

Replacing existing physical servers with virtual servers will allow the agency to avoid spending money on new server equipment with the added benefit of saving money on power and cooling costs. Additionally, there will be significant savings in server licensing since WSDOT will not require as many licenses that are currently maintained. Over the next 5-10 years the cost avoidance for IT will be found in these areas along with the decreased need for support and maintenance.

Additionally savings will be realized by the consolidation of OR, MATS, and GeoService severs in the HQs Data Center.

| FY | Total Number of Servers | Number of Servers to be Replaced FY 11 | Number of Servers Planned to be Added FY11 | Factors Driving Server Acquisition Strategy |
|---|---|---|---|---|
| FY2011 Actuals | 1036 Physical Servers (Total Deployed Servers including blade servers) 304 Virtual Servers | 30 Physical Servers | 20 | This year's reduction in the amount of servers being used can be directly related to continuing efforts by staff in all regions to decommission servers running unused services, consolidation, and migrating older physical machines to WSDOT's virtual server environments. |
| FY2012 Planned | 1083 Physical Servers | 28 | 20 | |
| FY2013 Planned | 1084 Physical Servers | 25 | 20 | |

|  | FY 2010 | FY 2011 |
|---|---|---|
| Microsoft Server 2000 | 64 | 30 |
| Microsoft Server 2003 | 833 | 808 |
| Microsoft Server 2008 | 5 | 36 |
| Microsoft Server 2008 R2 | 0 | 16 |
|  | 902 | 890 |

| Active Directory Domains Servers | FY 2010 | FY 2011 |
|---|---|---|
| WSDOT.LOC | 1030 | 988 |
| WEBDOT.PUB | 58 | 82 |
| DOTT.LAB | 18 | 27 |
| WSDOT-INTER-AGY.PUB | 12 | 12 |
|  | 1118 | 1109 |

| Virtual Server Assets | FY 2010 | FY 2011 |
|---|---|---|
| Virtual Hosts | 40 | 38 |
| Virtual Servers | 249 | 304 |
| Agency Virtual Server Percentage | 22 % | 29.3% |

For detailed information on servers contact the WSDOT OIT Server Operations Manager.

## e. Network Connectivity

| % Agency Staff with Inside WA (Intranet) Access | Agency Primary Network Operating System |
|---|---|
| 2% | Windows Active Directory |

WSDOT has an extremely complicated and widespread configuration of wide area networks (WAN's) and local area networks (LAN's) to serve both internal and external customers.  The major components of the WSDOT network include:

1) WSDOT Data Network
2) the WSDOT Voice and Video Network; and
3) WSDOT Traffic Networks.

The WSDOT network environment is based primarily on Microsoft Windows for servers and workstations and uses TCP/IP as the primary network protocol. A brief description of the major components follows.

## WAN –

The Washington State Department of Transportation has an extensive data transmission system to meet its internal operational needs for information sharing between its offices across the state.  The data network is the WSDOT communications medium used primarily for file and print services, electronic mail, calendaring, document transfer, Client/Server systems, file transfer, and mainframe access.  The WSDOT network backbone consists mostly of Cisco routers/switches and Enterasys switches.

Internet access is provided to WSDOT through the DIS.  A few outside devices, from both the Internet and from other state agencies, are allowed to connect directly to any machine within the WSDOT class B address via a secure encrypted pass through of the firewall.  Email, HTTP, and FTP (pull only FTP) connections are allowed through the WSDOT firewall.

The backbone of the WSDOT network is a WAN that connects the Olympia headquarters building to about 235 (this changes often as offices are moved/added/deleted) offices including six Regional Headquarters sites, and the Ferries Division (FD) facilities. The network backbone infrastructure is based on Cisco routers/switches and legacy Enterasys switches with a combination of dedicated Ethernet

10/100/1000 mb and T-1 point to point circuits to all regional headquarters, and a mix of T-1 point-to-point (P2P) and T-1 Frame Relay (FR) circuits to all Project Engineer and non-maintenance satellite offices. Area Maintenance Offices are currently also connected via DSL, Cable, T-1 P2P, and T-1 FR from Qwest, Century Tel, Verizon and various third part Telecommunications vendors.  DSL and Cable connections are used with IPSEC VPN to provide secure access to the DOT network over the Internet.  The WAN is also the communications medium used for access to mainframe and Client/Server applications, Email, calendaring, document transfer, and file transfer.

Communications for all of the services offered on the network are vital to the business operations of WSDOT and depend heavily on the availability and reliability of the Wide Area Network.

## WSDOT Regional Local Area Data Network –

There are six Regional Headquarter sites (not including Ferries Division) which vary in size.  Each Regional Headquarters acts as a hub for the portion of the WAN that it serves.  The regional network infrastructure is based on Cisco routers/switches, Enterasys switches, and various Intel server platforms operated and administered in concert with OIT Infrastructure Services.  Network topologies include 10BaseT, 100BaseT, 1000BaseT, Switched 56K, T-1 P2P, FR T-1, Ethernet fiber, and Spread Spectrum Radio components. WSDOT OIT centrally contracts, manages, and arranges installation and supports 56K, T-1 P2P, FR T-1, Fiber and other transmission modes to remote offices.  Local Area Network (LAN) cabling ranges from Category 3 to Category 7 and supports 10/100/1000 MB twisted pair Ethernet services to workstations and other nodes on each LAN.

## Region Traffic Systems Network –

The Traffic Management Centers (TMC) in region headquarters operate a network application for several traffic management systems. The Northwest Region network application operates over 100 miles of optical fiber on Interstate 5, Interstate 90, Interstate 405, and SR 520 and SR167.  Near-term projects will expand the coverage in many of the other regions, specifically Southwest, Olympic, North and South Central combined and Eastern.  The traffic management system consists of the following components:

- Fiber connected cameras (700+) used for traffic management, emergency services and for the public at large.  Public images are presented to the wsdot.wa.gov web page and update every one to five minutes.  They are also used by the news agencies for traffic information to the public.
- A series of loop detectors (counting devices) imbedded in the roadways at one-half mile intervals on major Seattle area freeways.
- Optical fiber cables for transmission of loop sensor data to a central computer at the Traffic System Management Center.
- A VAX 6420 minicomputer to process the traffic data.
- A workstation gateway between the VAX minicomputer and other workstations that dial in to get traffic data, which is subsequently displayed, in graphical format.
- A set of traffic management system file servers.

The information generated by this system goes to the public via WAN to the Internet, television and radio stations, the Seattle Times information line and WSDOT traffic information numbers as well as directly into malls and major employment sites throughout the region.

## *Voice and Video Network –*

WSDOT has its own PBX and video conferencing infrastructure linking most of the major sites in Washington.  A separate network of T-1 links handles voice and video transmissions between locations with "Voice over Frame" and "Voice over IP/Data Network" available between regional HQ sites and the Transportation Building.

## f. Geographic Information Systems (GIS) Resources

GIS provides maps of the transportation system and the surrounding landscape.  This computerized environment enables the integration, analysis, storage, and presentation of data that describe the system, how it is used, its condition, and how it performs.  GIS is a tool for making decisions about the

management of the transportation network and assets necessary to create successful transportation solutions.  The maps produced by GIS also facilitate the communication and public involvement that generates understanding and support.

WSDOT's GIS mission is to improve the agency's ability to identify the best transportation solutions, develop programs that can be delivered on time and on budget, track assets, operate the system efficiently, and communicate to the public. As a result, GIS contributes to public safety, accountability, and stakeholder satisfaction.

## *Staff*

| | Number of GIS Staff (FTEs) | Indicate here if included in Total Agency IT FTEs |
|---|---|---|
| Central Support (OIT) | 5.0 | Yes |
| Program Area Support (GIS & Roadway Office) | 10.5 | No |
| Program Area Support (Materials Lab) | 0.5 | No |
| Program Area Support (Environmental) | 3.5 | No |
| Program Area Support (Public Trans) | 1.0 | No |
| Program Area Support (Traffic) | 1.0 | No |
| Program Area Support (NW Region) | 0.5 | No |
| Program Area Support (South Central Region) | 1.5 | No |

## *GIS Software*

| Product Name | Vendor Name | Number of Licenses | Number of Installations Workstation | Number of Installations Server |
|---|---|---|---|---|
| ArcView 3.2A | ERSI | 56 | 14 | |
| ArcInfo Concurrent Use Licenses | ERSI | 19 | 1747 | |
| ArcEditor Concurrent Use Licenses | ERSI | 1 | 1 | |
| ARcView Concurrent Use Licenses | ERSI | 78 | 1727 | |
| ArcEditor Single Use | ERSI | 1 | 1 | |
| ArcView Single Use | ERSI | 31 | 31 | |
| ArcGIS Server Advanced Enterprise | ERSI | 4 | | 4 |
| ArcGIS Server Advanced Enterprise Staging | ERSI | 2 | | 2 |
| ArcGIS Server Standard Enterprise | ERSI | 5 | | 5 |
| ArcGIS Server Standard Enterprise Staging | ERSI | 1 | | 1 |
| ArcGIS Server Basic Enterprise (a.k.a., ArcSDE) | ERSI | 3 | | 3 |
| ArcIMS | ERSI | 3 | | 2 |
| Motorola GeoFile Utility | PRINTRAK | 1 | | 1 |
| Advanced Tactical Mapping | PRINTRAK | 2 | | 2 |

**Note:** *WSDOT owns one ESRI training kit for 25 ArcView concurrent use licenses that are used for internal GIS training classes. These licenses are not included in this table.*

## GIS Hardware

| Make/Model | Intel/Windows XP configured for WSDOT Level Playing Field<br>Server – Microsoft Windows NT Server 5.2 |
|---|---|
| Number | Desktop – 1864 (deployed ArcGIS)<br>Geodata Catalog Servers – 10<br>ArcGIS Server Basic Enterprise - 3<br>ArcGIS Server Standard Enterprise - 6<br>ArcGIS Server Advanced Enterprise - 6 |
| Is this included in Total PCs? | Yes |
| Is this included in Total Servers? | Yes |

## Major GIS Applications

| Name | Description |
|---|---|
| GIS Workbench | The GIS Workbench presents menus of data from the WSDOT GeoData Catalog, and custom tools that have been tailored for defined business areas. GIS Workbench (GISWB) is designed to serve all business areas of WSDOT without having to spend resources to create separate GIS applications for each group or business area.  Currently the GISWB contains five business areas (BA) with customized views of the WSDOT GeoData Catalog.<br><br>• Environmental BA, owned by Environmental Services Office, provides access to data and tools that support project environmental review, documentation and permitting processes.<br>• Transportation Data Office BA, owned by the Transportation Data Office, provides access to data collected by TDO as part of their ongoing roadway inventory programs.<br>• Facilities BA, owned by the Equipment and Facilities Office, provides access to data and tools that are used to assist in the location, identification, and management of WSDOT owned or maintained facilities across the State.<br>• Transportation Analysis BA, owned by Systems Analysis and Program Development, provides quick access to corporate engineering data required for high-level scoping and design decisions.<br>• Emergency Operations Center BA, owned by Emergency Operations, provides access to data commonly needed in the event of local and regional emergency situations.<br>• Northwest Region, owned by the NW Region Maintenance Office, provides access to Region specific GIS data and is used to support the Regions' on-going maintenance operations.<br>• Geotech BA, owned by the Geotechnical Services, provides access to data needed by geotechnical engineering and engineering geology specialists to support the design, construction, and maintenance needs of the state's transportation system. |
| Roadside Feature Inventory Program | RFIP is an enterprise program for collecting, storing and reporting roadside features such as guardrails, culverts, signs, objects in clear zones, and other features. |
| Washington Transportation Framework | WA-Trans a base map of transportation facilities (state, federal, local, tribal, etc.), a system to create and maintain the database, and a system to facilitate the sharing of transportation data between organizations.  Initially limited to roads, WA-Trans provides for the eventual inclusion of other modes including rail, ferry, port, airport, and non-motorized vehicle routes. |
| Winter Operations | Winter Operations is a real time GPS vehicle tracking system which monitors the |

| | |
|---|---|
| | location, and activity, of WSDOT Maintenance Vehicles and IRT trucks.  A web browser GIS map displays road conditions, road surface treatment and various vehicle activities such as speed, direction plow blade position, chemical application, air temperature, road temperature and many more. |
| **WSDOT Traffic and Weather Web Site** | WSDOT Traffic and Weather web site provides traveler information via the Internet.  Available information includes pass reports, weather conditions, surveillance camera views, highway advisory radio messages, construction zones, traffic restrictions, and road conditions.  Information is accessed through GIS generated map graphics. |
| **Vessel Watch** | Vessel Watch provides commuter updates on Washington State Ferry vessel locations via the internet. |
| **Unstable Slopes** | Unstable Slopes provides WSDOT engineers access to unstable slope information via a map including rating information and possible design solutions. |
| **Monument Map Engine** | Monument Map Engine provides WSDOT engineers and the public access to a database of geodetic survey monuments via an Internet map. |
| **Stormwatch** | Stormwatch allows WSDOT to manage snow removal during storm events.  The system provides for tracking of weather and road conditions along with snow plow routes. |
| **Integrated Vegetation Management** | Integrated Vegetation Management is used to manage control programs for nuisance and noxious weeds.  WSDOT HQ Maintenance staff use the system. |
| **Transportation Mapper** | TransMapper, short for Transportation Mapper, is a free light weight global mapping tool that is similar to Google Earth but is compatible with WSDOT map data and GIS software.  CGIS has developed TransMapper in order to better support the rapidly growing interest in simple GIS mapping applications. The initial version contains a few WSDOT specific customizations to locate state route mile posts. Additional customization and map layers will be added as requested. |
| **Spatial Web Services** | These GIS web services can be used by software application developers in order to perform spatial tasks.  X/Y coordinates can be converted to nearest state route mile post, accumulated route measures can be converted to X/Y, line features can be created along state routes.  These, and additional, services can be used to build more complicated tools within an end-user application. |

## GIS Databases

| Vendor Name | Number of Applications |
|---|---|
| **ESRI Coverage (enterprise databases)** | 4 |
| **ESRI SDE (enterprise databases)** | 8 |
| **ESRI Shape file (enterprise/office/personal databases)** | 14 |
| **Microsoft SQL Server (enterprise databases)** | 17 |
| **Microsoft Access (office/personal databases)** | 2 (at least, probably more).  Includes:<br>• Eastern Region – (1) Real Estate Services Parcel Tracking System. |
| **Microsoft Excel (office/personal databases)** | Unknown |

## g. Computer Aided Engineering (CAE) Resources

Computer Aided Engineering (CAE) software is critical to efficient, effective delivery of highway projects. InRoads, CAiCE, ProjectWise & MicroStation are the primary agency-wide applications within this category.  These applications support field survey data operations, project design, quantity calculations, plan preparation, and construction administration. It's important to note that there are many specialty applications that support other engineering processes that are not included here.

### *Staff*

| | Number of CAE Staff (FTEs) | Indicate here if included in Total Agency IT FTEs |
|---|---|---|
| Central Support (OIT) | 2.0 | Yes |
| Central Support (HQ Design Office) | 6.0 | No |
| Program Area Support (Regions) | 10.0 | **7 are not included, 3 (NWR) are included** |

### *CAE Software*

| Vendor Name | Carlson Software | AutoDesk | Bentley Systems Inc. | Bentley Systems Inc. |
|---|---|---|---|---|
| Product Name | SurvCE | CAiCE | InRoads | MicroStation |
| Number of Licenses | 50+ | 100+ | Subscription | Subscription |
| Daily Users | 50 | 15 | 200 | 500 |
| Primary Uses | Survey crew data collection. Software operates instruments and manages data. | Survey Data Processing, Roadway Design, Surfacing & Earthwork Quantities | Survey Data Processing, Roadway Design, Surfacing & Earthwork Quantities | Drafting Contract Plans, Visualization, Photogrammetry, Cartography |
| Comment | Software runs on Windows CE devices | CAiCE is being phased out and has substantially been replaced by InRoads. | Wsdot has an Enterprise subscription license for all Bentley applications. InRoads uses MicroStation as the CAD platform; therefore, InRoads also usesMicroStation license. | Wsdot has an Enterprise subscription license for all Bentley applications. |

| Vendor Name | Bentley System Inc | Transoft Systems |
|---|---|---|
| Product Name | ProjectWise | AutoTurn |
| Number of Licenses | Subscription | 25 |
| Daily Users | 200 | 10 |
| Primary Uses | Engineering document management between offices and organization. | AutoTurn is a 3rd-party add-in for MicroStation that is used for turning templates. |
| Comment | WSDOT has an Enterprise subscription license for all Bentley applications. | AutoTurn uses MicroStation as the CAD platform. |

## *CAE Hardware*

| | |
|---|---|
| **Make/Model** | Intel/Windows PC's configured for WSDOT Level Playing Field. Survey equipment includes Trimble, Leica, and Topcon total station and GPS. Allegro data collectors. |
| **Number** | No count available on total stations, GPS, or data collectors |
| **Is this included in Total PCs?** | N/A |
| **Is this included in Total Servers?** | N/A |

## *Major CAE Applications*

CAE doesn't encompass applications as traditionally defined for IT.  Engineers use engineering software and technology tools to facilitate surveying, engineering and drafting for design and construction.

| Name | Description |
|---|---|
| **Roadway Design Software** | Roadway design software is used for processing survey data, solving coordinate geometry calculations, calculating earthwork, surfacing and other volumes, analyzing water flows, calculating contract pay quantities, and visualizing projects. ProjectWise encompasses both InRoads and MicroStation providing content management between the applications as well as standard documents. |
| **Computer Aided Drafting Software** | CAD software is used to electronically draft R/W, contract plans, and other plans. MicroStation has been the WSDOT standard since the early 80's.  The Bridge Division uses MicroGDS for drafting bridge plans because of functionality that supports the bridge design process.  MicroStation is a very stable CAD platform and we have a large base of trained CAD Operators.  MicroStation is also the standard for 49 other State DOT's.. |
| **Survey Technology** | Survey technology comprises the total stations, data collectors, GPS receivers, and software for processing data for design and construction survey work. WSDOT has no standards for survey instruments, there are a variety of different instruments and GPS receivers in use.  We do use a standard data collector, the Allegro running Carlson SurvCE software that connects to all the instruments.  InRoads and CAiCE survey modules are used to process survey data and to move data between the PC and data collector. |
| **Engineering Document Management** | ProjectWise is used to manage engineering files by internal WSDOT staff and external consultants. |

# h. 2010 Security

The Office of Information Technology tracks compliance with IT security policies, standards, and guidelines.  Changes to the security program are currently being worked as part of the effort to become compliant with Information Services Board (ISB) standards, Purchase Card Industry standards, and as part of our continuing efforts to reconnect to the SGN.  The Three Year Security Audit was conducted in 2009 with the next security audit scheduled for 2012.  On July 31, 2012 WSDOT is required to be fully compliant with ISB standards and where not compliant have identified, approved deviations, and mitigation strategies.

## Security Program Compliance

WSDOT tracks compliance with the ISB Security Standards and provides an annual update on the state of compliance.  WSDOT Security Plan, standards and procedures are maintained in the WSDOT IT Manual.  Those portions of the IT Manual that are sensitive have restricted distribution and access is

limited to those individuals with a need to know.  The annual security program compliance verification letter is signed by the Transportation Secretary and submitted to DIS by August 31$^{st}$ of each year.  Every three years there is an independent audit of the IT security program conducted by the WSDOT audit Office.  The last audit was started in 2009 and completed in 2010 and the next audit is due to be conducted in 2012 under the new ISB standards.

## i. Business Continuity Planning

The Office of Information Technology provides technical support for business continuity planning, and provides a major role in disaster recovery/business resumption planning.

The Annual Disaster Recovery/Business Resumption Plan verification letter is signed by the Transportation Secretary and submitted to DIS by August 31.  The current plan has been reviewed and updated.  The update is the result of linking the Continuity of Operations Plan (COOP) work, a plan for actions during any type of IT incident, the business continuity planning work and overall disaster recovery planning work. The resulting document is a working document available for critical personnel in OIT. This effort began in September 2008, has continued into 2010.

## j. Public Access

WSDOT continues to excel at providing electronic access to public information and enabling citizens to have appropriate two-way interaction for obtaining information and services, as requested in RCW 43.105.270.

The WSDOT website has been continually redesigned to improve public access to information and better serve the public.  Using a customer-focused perspective, WSDOT evaluates how customers look at the site and designs navigation to support improved access by topic rather than the traditional navigation by organizational structure. The WSDOT website averages 800,000 page views each day, far exceeding the public usage of other Washington state agency web services.

Information architecture is developed based on how real users actually look for information.  Standardized navigation design across pages creates a more consistent and intuitive user experience that lets users know what to expect from one page to the next.

WSDOT's award winning, nationally recognized, real-time traveler information displays live images from more than 600 cameras and continues to be the most popular public access service provided by any government agency in the state.  During the winter, mountain pass and cross-state travel conditions are also heavily used.

## Public Interaction

In planning or implementing electronic access and two-way electronic interaction and delivery technologies, RCW 43.105.270 encourages agencies to increase their capabilities to communicate directly with the public.

WSDOT uses new social Web technologies and more traditional electronic mail services in combination to increase opportunities for public interaction.

- The WSDOT Blog helps us break down bureaucratic barriers and establishes a direct, casual, interactive conversation between the agency and the public.
- The Flickr photo and video hosting website lets us share images with the public.
- WSDOT's YouTube channel allows us to share and discuss videos.
- Twitter provides instant text messages with Puget Sound traffic information, mountain pass reports, Canadian border wait times and aviation weather reports.
- WSDOT provides e-mail and text message alerts for more than 75,000 subscribers using software as a service provided by GovDelivery.

- WSDOT's construction projects publish the contact information for the individual directly responsible for that project to encourage direct public correspondence.
- Encouraging citizens to take alternative transportation and receive incentives for doing so.
- Online tools such as SRweb allow citizens to take a virtual drive across state highways.
- Electronic business transactions are well established on the WSDOT web, including the following transaction services:

Electronic business transactions are well established on the WSDOT web, including the following transaction services:
- Contract ads and awards on the web provide contractors with information on construction projects.
- Contractors can research and find qualified products to use for construction projects.
- Citizens, contractors and other public agencies can order technical manuals and publications and receive e-mail notices when there are updates.
- Online ordering of Washington State Highway Maps.

Electronic commerce applications include:
- Tolling transponders for the Tacoma Narrows Bridge and other tolling systems.
- Purchasing Ferry tickets online
- Monthly passenger passes for frequent travelers on Washington State Ferries.
- Reservations for international ferry travel.
- Aircraft registration for Washington pilots.
- Issuing permits to move oversize and/or overweight loads
- Train reservations and ticket purchasing through the Amtrak Cascade Web site.

## Continuous Access

RCW 43.105.270 also encourages agencies to use public access technologies that allow continuous access twenty-four hours a day, and seven days per week. More than two thirds of the hits on WSDOT web servers are recorded outside of traditional business hours. The busiest hour for WSDOT web services is typically between six and seven in the evening.

Among the 24x7 services provided by WSDOT's web are services for consumers, businesses, and other government agencies. These include:
- The WSDOT News Room provides easy access to news items and social media services.
- Real-time traveler information includes traffic cameras and weather forecasts.
- Travel alerts to warn drivers about highway slowdowns.
- RSS (Real Simple Syndication) feeds provide news bulletins and other information directly to subscribers.
- Automated e-mail bulletins and text messages provide timely updates on road conditions and many other WSDOT services.
- The most current information of the status of hundreds of major transportation projects.
- Public transportation options, such as car pools, bicycling, bus travel and more.
- Mountain pass reports provide an important public safety service for Washington travelers.
- A guide to Washington airports and flight service stations including the most current communications frequency chart.
- On line access to Washington State Ferry schedules and service information for commuters and tourists.
- Highway construction updates all around the state.
- A property boundary monument locator provides a popular resource for surveyors.

Commercial news organizations regularly use the WSDOT Web site and WSDOT traffic cameras as their original source material for timely and accurate information. Newspapers, radio and television stations provide links to the WSDOT Web site to enhance their own public service activities.

## k. Application (Systems) Information
An application is a set of programs, modules or jobs that are processed in predefined sequence designed to satisfy a business requirement or function.

## Summary Information

The following tables summarize the technology platforms, databases, and languages used to support OIT maintained applications.

| Applications by Technology Platform | |
|---|---|
| *Windows* | 86 |
| *Java* | 2 |
| *Stellent* | 17 |
| *FileMaker* | 25 |
| *Mainframe (IBM 2066-01A)* | 35 |
| *.NET Framework* | 26 |
| *LiveLink* | 1 |
| *Windows Web* | 69 |
| *Other* | 5 |

| Applications by DataBase | |
|---|---|
| *Access:* | 5 |
| *Adabas:* | 26 |
| *Oracle:* | 3 |
| *SQL:* | 120 |
| *VSAM* | 12 |
| *FileMaker* | 13 |
| *XML* | 5 |
| *Other* | 9 |

| Applications by Language | | | |
|---|---|---|---|
| *Access* | 1 | *Informatica* | 13 |
| *ArcGIS & Related* | 6 | *Java* | 2 |
| *Archibus* | 1 | *JCL* | 33 |
| *ASP/ASPX* | 16 | *Lscript* | 2 |
| *C & C++* | 3 | *Kofax* | 20 |
| *C#* | 51 | *Natural* | 30 |
| *CList* | 24 | *Remedy AR System* | 4 |
| *COBOL* | 35 | *PowerBuilder* | 15 |
| *Cold Fusion* | 6 | *PS8* | 1 |
| *Crystal Reports* | 6 | *SQL Reporting* | 17 |
| *DYL280* | 25 | *Assembler* | 1 |
| *Excel* | 2 | *Utilities* | 25 |
| *FileAid* | 27 | *Unknown* | 6 |
| *FileMaker Pro* | 25 | *VB* | 31 |
| *FrontPage* | 1 | *VB.Net* | 4 |
| *HTML* | 5 | *VBA* | 9 |
| *Hyperion* | 3 | | |

As WSDOT applications age, the Total Cost of Ownership (TCO) is met and increasing maintenance and support costs negate any cost savings. Older applications which have not been converted to the newer technologies run on out-dated platforms and provide a challenge to support. The support for these older applications requires specialization in the out-dated technology which becomes increasingly hard to find. These technologies are not longer taught in Colleges and many of the WSDOT support staff have retired, are reaching retirement or have moved to the newer technology which provide better career opportunities.

WSDOT OIT continues to identify and plan upgrades for the technologies which are more than 15 years old.  Many of these applications are mission critical and with limited resources will continue to age until funding can be found for converting the applications.

| Applications by Age | |
|---|---|
| 0 - 5 Years | 98 |
| 5 - 10 Years | 96 |
| 10 - 15 Years | 65 |
| 15 - 20 Years | 12 |
| 20+ Years | 62 |

## Application Portfolio

WSDOT has 333 applications.  Of this 333 there are 234 applications in the OIT application portfolio maintained by the OIT Enterprise Application Group.  The Materials Laboratory maintains 20 of their mission specific applications.  The Roadway/Transportation Data Office maintains 5 mission specific applications while the remaining applications are spread among the other business units of WSDOT.  In addition, there are small, business centric applications that do not require OIT support and therefore are not included in this count.  WSDOT OIT continues to coordinate with the business units to identify and report on application information.

In OIT the number of applications does not fully reflect the work load needed to maintain the OIT applications.  Applications may require maintenance across several platforms with specific skills.  For details on any OIT application please contact the Enterprise Applications Manager in WSDOT OIT.  For information on the Roadway/Transportation Data Office application portfolio contact the Roadway Application Support Manager.  For information on the Material Laboratory applications contact the Mats Lab application manager.

This is a list of all the applications with a summary description:

| Application Name | Description Summary |
|---|---|
| 167 HOV Office Documents | Document management application for Scan/Store/Retrieval of documents. |
| 3RAM Interface | Interface between Traffic Stats and vendor supported 3RAM system to help dispatch WSP personnel |
| 511 Voice Interactive System | 511 system is the state-of-the-art speech recognition technology allows callers to verbally tell the system what they want, such as "traffic" or "mountain pass" , highway roads incidents and traffic congestion information. |
| Accounting Data mart | Detailed view of agency Expenditures, Agreements, Revenues, Deferred Revenue and Cash Receipts. |
| Accumulated Route Mile Calculation Module (PC ARMCalc) | This application replicates the TRIPS mainframe function, given a SRMP or an ARM with a Reference Date, this program will return the requested SRMP or ARM for the specified Response Date, for a PC application. A file containing several values that have to be converted can be processed in batch mode. |
| Activity Reports Online | Allows participating Adopt a Highway organizations to file their littler pickup reports via the web. |
| Administrative Services Contracts | Document management application for Scan/Store/Retrieval of documents. |
| Adopt A Highway | Tracks groups signed up for the Adopt a Highway program and the litter |

| | picked up |
|---|---|
| Aggregate Source Approval | This application lists all aggregate sources (7400+ pit sites) that have been used for WSDOT construction purposes and identifies whether or not they are currently approved for use. |
| Airport Information System (AIS) | Airport Information System (APIS) is a secured external facing application developed for Aviation department of WSDOT. The application will be used by WSDOT trusted partners that include Airport Representatives, Federal Aviation Administration employees along with WSDOT Aviation staff. Some report will be available to general public. The application is ADA compliant. This application will provide information about the airports and aircrafts in Washington State and will also let the airport employee to update the information on airports and register aircrafts. |
| Amtrack Cascades | Rail services information. |
| Amtrak Schools on Trains Registration | Used by public to register and get group discount tickets for students |
| Apprenticeship/Journeymen Tracking | Application for contractors to report apprentice and journeyman hours and DBE compliance on state construction contracts |
| ArmCalc | Common module for any PC system to convert/validate SRMP to ARM and ARM to SRMP. Includes Web services. |
| As Builts | Document management application for Scan/Store/Retrieval of documents. |
| Audit Tracking | Tracks internal and external auditing data. |
| Automated Fuel Tracking | Provide systems interface between a vendor supported system and TRAINS (AM) system. |
| Automated Training Management System | ATMS supports internal and external training programs for over 6,000 agency and various county & city employees. The system is an integral part of the department's training program. |
| Available4Adoption | Shows adopt a highway segments that can be adopted as well as those segments not available. |
| Aviation Internet Registration | The Aviation Division registers Washington aircraft, pilots and aircraft mechanics. Annual registration is required by law. Registration fees and excise taxes are collected using a web-based e-commerce application. |
| Barlist | Reinforcing steel quantity estimating tool. Distributed under the terms of the Alternate Route Open Source License. |
| Basic Accounting Transaction System | The BATS system is responsible for transmitting the Materials Lab billing transactions to the WSDOT accounting systems, TRAINS. |
| Better Mousetraps | A web based system to provide a place to share ideas among public works employees about ideas and home-grown equipment to save time and money on projects. |
| Bids unit price analysis | Used by public and internal staff to view bid history, unit price and bid items and analysis unit price and history |
| Bridge Design Issues | For the bridge office to keep track of and monitors design issues that arise during bridge construction or repair projects. |
| Bridge Engineering Information System | Web-based application that provides access to inventory data, plans, rating reports, inspection reports, photographs, and related files for bridge structures in the WSDOT inventory. |
| Bridge Opening Schedule | Used by the Traffic Management Centers for scheduling when a movable |

| | |
|---|---|
| | bridge opening is required |
| Bridge Repair | Web-based application that provides information pertaining to bridge repairs. |
| Bridge Timesheets | Application for the Bridge Office to fill out and submit electronic timesheets |
| Business Card Order System | Used by all WSDOT personnel to order WSDOT business cards. Orders are processed by system, reviewed by Forms Management staff and electronically sent to Printing Services Docutech copiers for printing. |
| CADD and Orthophoto Information System | The system's business function is a tracking catalogue for the Department of Transportation in Geographic Services. |
| Capital Program Management System | CPMS helps establish, monitor, manage, and deliver the WSDOT statewide Capital Highway Program. CPMS does not manage individual project details, but does help plan and monitor the overall construction program. |
| CarsQA | Process collision reports for upload and processing by mainframe programs. |
| CCIS Word Macro | To provide users at the Regional Project Offices the ability to add or modify Change Order Text of an existing DOT contract stored on the CCIS mainframe. |
| Census 2000 Data Engine | The Census 2000 Data Engine is an application/database designed and distributed by the U.S. Census Bureau. |
| Central Operations Support | This system assists Central Operations with managing tape requests. |
| City View | Application used to view streets in cities in Washington and the pavement condition of those streets |
| CLAS - Data | CLAS is an application that provides systems analysts a data entry and analysis tool to capture and analyze collision data from statewide collision reports. |
| CLAS - Edwms (Collisions) | This application provides the ability to scan and index collision report images; add, update and delete collision report data in the statewide collision repository database as well as feeding other systems, both inside and outside the department. Components of the CLAS-EDWMS System are: PTCR and Citizen Report Document Imaging, Workflow, CLAS Screens, Electronic Collision Report Processing, Collision Image Web Viewer, Online CLCF, DSHS Data feed Web Service, CVARS Web Service, City / County / CRAB / TSC / FARS Data feeds, DOL Data feeds, Carfax and Experian Data feeds, and WSP Public Disclosure. |
| Collision Data Mart | This database is the repository for all collision data from 1999 – current. It provides the ability to search for a collection of collision reports based on the customer's request. It does not contain any personal identifiers. The Collision data mart is an integral component of the WSDOT Data Warehouse. |
| Collision Location and Analysis System | Process collision reports form 2002 forward. |
| Collision Report Public Disclosure (Cash receipts) | This application is used to track cash and the status of all collision information requests. A request is received from a citizen or organization that includes the name of a person involved in a collision, the date of collision or collision number, and a $5 payment. The WSP public |

| | disclosure office prepares and deposits the cash receipts and mails out a copy of the requested collision to the requestor. Due to OFM regulations, payments must be deposited the same day they are received. If this application is necessary to process the daily deposit. |
|---|---|
| Commercial Vehicle Information Systems and Networks | CVISN provides the ability to weigh vehicles in motion, automatically clear those that meet state transportation standards, and check vehicle licenses and permits against state records. |
| Commercial Vehicles Restrictions | Verifies vehicle routes based upon the dimensions of the vehicle & Trailer. |
| Commitment Tracking System | Provides an automated single point of entering and tracking environmental commitments. This system allows WSDOT to log, track, and document completion of environmental commitments. |
| Common Modules | These are common modules shared by various IT applications. |
| Commute Trip Reduction Survey | This application allows the Public Transportation Division to more effectively and efficiently meet its legal and contractual obligations to provide data analysis and statistical reporting including measuring of the changes in drive-alone trips and VMT per employee at the worksite, jurisdiction, regional and state scales. The CTR re-design automated and streamlined the transfer of data from raw survey format to a CTR database management system. Every two years employers survey their employees and jurisdictions, RTPOS and WSDOT use this data to analysis progress towards meeting the CTR goals established in local plans. |
| Commute Trip Reduction System | System to track participants activities in the commute trip reduction program |
| Computer Aided Engineering Systems | These systems support the roadway design process within WSDOT. |
| Computer Aided Facility Management | The Computer Aided Facility Management system provides data and functionality in support of all facility management functions. |
| Condition Acquisition and Reporting System | The Condition Acquisition and Reporting System (CARS) is a standardized way for transportation department personnel to manually input and share information about traffic, incidents, construction, closures, and other activity on the roadway. |
| Construction Audit Tracking System | Construction and audit system that provides a communication process in resolving noncompliance issues found during construction inspections. |
| Construction Contracts Information System | CCIS collects, analyzes, and reports on construction contract details, e.g. start dates, end dates, percent complete, fair hiring practices, fair wage rates, percent of work sublet, etc. System functions include: |
| Consultant Agreements | System for the Consultants Office to manage agreements with outside entities |
| Consumable Inventory System | Tracks consumable inventory for MVF, WSF, and Maintenance. Handles Orders, Receipts, issues, Physical Inventory and adjustments to the inventory. |
| Content Management Server | Content Management Server 2002 is an enterprise Web content management system that makes content authoring and delivery easy. Content Management Server 2002: |
| Contract Administration and Payment System | CAPS maintains administrative and payment information about highway and ferry construction contracts. System functions include: |

| | |
|---|---|
| Contractor Prequalification | Handles contractor pre-qualification, pre-contract administration, and region contractor inquiry |
| Contractor Pre-Qualification System | The Contractor Pre-Qualification System handles contract pre-qualification, pre-contract administration, and district contractor inquiry. |
| CPMS Data Mart | A SQL-based adhoc reporting database containing various snapshots of CPMS data. The database has been designed for ease of reporting. The types of snapshots include Production, Yesterday-Production, Book, Yesterday-Book, and Month end. Book is a generic name for a snapshot of the mainframe production data that is being matched to the latest Legislative Budget. The Production snapshot is updated nightly with the current information. The latest Book snapshot is updated nightly, while the data is being updated on the mainframe. Eventually, the data is locked down and not updated thereafter. The Month end snapshots are loaded once after the month is closed in CPMS and not updated again. |
| CPMS Scenario Subsystem | A web-based application containing the latest Production and Book data. It is updated nightly. It makes data, processes, and tools available to Program Management staff to perform "what-if" scenario analysis by creating multiple versions of Work Items, multiple versions of Program Items, and multiple versions of the cluster relationships that link Work Items and Program Items together. |
| Credit Card Services | Web-based WSDOT application provides a single interface through which WSDOT applications can process credit-card transactions. |
| Crew Manager | Manages and Maintenance TMC staff details, application helps to maintain staff information as group ( crew) wise. |
| Culvert Inspection | The Culvert Recording application is a C# program that uses the VLC media player to record video and capture stills directly from the culvert inspection rover to a laptop's hard drive. The culvert inspection rover is a remote controlled mobile unit used by the Roadway Systems branch to inspect WSDOT culverts. The video and stills collected by "Culvert Recording" are then manually transferred to OIT supported file storage when the laptop is reconnected to the DOT network. |
| Culvert Maintenance Management System | The Culvert Maintenance System allows the collection, storage and reporting of culvert inspections, cleanings and repairs to meet the requirements of the Department. |
| Delphi Web Survey | The goal of this survey is to evaluate the current acceptance process and refine them as necessary to be more beneficial to the department and the traveling public. |
| Design Variance | Used by the Construction Office to keep track of variances from design standards that occur on projects. |
| Developer Services System | The State Environmental Policy Act (SEPA) requires all governmental agencies to consider the environmental impacts of proposed developments. |
| DIRSEL | The Dirsel program is a traffic count utility program designed to delete a single direction from a traffic data file.  The user selects a file, a direction, and a new file name and the program creates a new file deleting every line that is a reference to the elected direction.  The original file is left untouched. |
| DIS Call Detail Report System | WSDOT Telecommunications receives monthly SCAN, SCAN Plus, and |

| | phone line reports from Department of Information Services (DIS) in two formats (paper reports and compact disk). |
|---|---|
| Economic Gas Tax Reporting | The process reports on the state gas tax distribution to the counties and cities. It provides percentage of the allotments to the counties and cities. |
| E-Discovery | Used by the Risk Management Office and the AGs Office to keep track of the status of litigation against WSDOT |
| Electronic Bid System | Electronic construction materials bid tracking system. |
| Electronic Statewide Network Overweight & Oversize Permit Issue | Web-base application allows agents to issue oversize, over weight trip permits to truckers. Replaced client/server based Electronic Statewide Network Overweight & Oversize Permit Issue system Nov 1, 2003. |
| Employee Master File/Personnel Information System | Load employee data from HRISD to DOT-Employee-Master-File. Maintain employee data. |
| Employee Phone Book | Maintain employee telephone, location and e-mail address information. Create and maintain the "Blue Pages" of the WSDOT phone book. |
| Employee Search | Provide search for employee office contact data on the WSDOT Intranet. |
| Engineering Publications CD Library | Statewide external system used by local agencies, WSDOT contractors, vendors, Other state DOTs, and other foreign entities via subscription through Engineering Publications. |
| Environmental GIS Workbench | The Environmental GIS Workbench is a GIS application written to provide easy access to existing environmental data and environmental mapping. |
| EOC Video Wall | Emergency Operations Command center's collection of video monitoring systems. |
| ESS Safety Compliance Suite | Tracks Employee Safety Incidents |
| Estimate and Bid Analysis System | EBASE is used to develop estimates and reports for transportation construction projects, allow easy entry of contractor bid data, and award apparent successful bidders on those estimates. |
| Executive TORT Claims Web Site | A secure web application for WSDOT Agency Executives, Risk Management and the Office of Attorney General (OAG) attorneys to provide accurate and timely information on tort liabilities brought against WSDOT. |
| Exit Interview | A system for the HR Office to distribute, collect, and report on responses to the exit interviews given when someone leaves WSDOR or state service |
| Expenditure History On-line Query System | Expenditure History is a reporting application that answers questions related to highway construction expenditures on a state route. The selection criteria includes fiscal or calendar year, region, county, state route, and subprogram |
| Federal Aid Tracking System | Federal Aid System supports the preparation, review and processing of federal funding authorization agreements and modifications to the federal Fiscal Management Information System. |
| Federal Reporting System | This system is used by the Economics Branch for detailed reporting to the Federal Highway Administration on highway construction, maintenance, and administration expenditures. |
| Ferries EFS Integration with Smart Card | WSF's point of sale system which includes three primary components, a Web Store, Kiosk, and Point of Sales system in each tollbooth.  The primary functions of the system is to sell tickets, track usage of tickets and report on revenue collection activities in the tollbooths and |

| | terminals. |
|---|---|
| Ferries Foundation Data Services | Provides one source of data for main WSF subjects like Vessels, Terminals, Schedules, etc |
| Ferries HR Communication | Allows HR to communicate with employees (letters, labels, etc.) from one GUI |
| Ferries Medicare Reporting | Reports Medicare cases to the Federal Government |
| Financial Information Retrieval System | FIRS provides access to summarized accounting, spending plan, and work order information from TRAINS and TRACS. The FIRS database is read-only; data is retrieved and presented as an Excel spreadsheet. |
| Fleet Equipment Management Interface | Provide system interface support between a vendor supported system (Fleet Equipment Management system) and TRAINS (AM) system. |
| Fleet Equipment Management System | FEMS interfaces transactions to TRAINS monthly. |
| Force Account | Force Account is a client-server based system that provides and tracks reliable construction project information. The system will track expenses for Labor, Equipment and Invoice Items. |
| Functional Class Specifications | Document management application for Scan/Store/Retrieval of documents. |
| GIS GEO Catalogue Data Maintenance Application | Provides a mid-tier administrative interface to build and maintain the GIS Workbench database and the WSDOT enterprise GeoData Catalog. |
| GIS Workbench | The GIS Workbench is a child of the original Environmental GIS Workbench concept, fielded in 1998 and enables the access to Geographic Mapping Information in the agency. The application also includes tools such as SR View, Locate a State Route/Mile Post, Map a Point, As-built scanned document access, etc. |
| H&LP Conference/Workshop Tracking System | Used by H&LP to keep track of registrants and finances when a conference is put on. |
| HES Risk | A system for on-line grant applications via the web to apply for Federal Aid grants for Hazard Elimination Safety projects to mitigate the risk of a collision at a high risk location. Used sporadically when grants are being accepted. |
| HES Safety | A system for on-line grant applications via the web to apply for Federal Aid grants for Hazard Elimination Safety projects for hazardous locations. Used sporadically when grants are being accepted. |
| Highway Performance Monitoring System Web Application | HPMS data is collected annually by all states and reported to the Federal Highway Administration (FHWA). |
| Highway Road Logs | Document management application for Scan/Store/Retrieval of Highway Road Logs. |
| Historical Photos | Document management application for Scan/Store/Retrieval of documents. |
| Hood canal bridge weather | Public web page used for reporting on the current weather conditions at the Hood Canal Bridge. Camera images from bridge are also available. |
| HPMSview | Application to combine Pathways Van imagery with existing HPMS data for use in field verification. Used by local agencies |
| Human Resources Employee | Workflow and Imaging application for the processing and storage of HR |

| Actions | Employee Action documents. |
|---|---|
| HY8 Input Generator | Hydraulic design software for culvert design and analysis.  Developed by FHWA, Requires Windows 2000 not approved for Windows XP. |
| Illegal Sign Inventory | Internal application used by the Traffic Office to track advertising signs that have not been permitted or that do not meet standards IAW RCW. |
| Integrated Real Estate Info System | REIS replaced in 2008 by IRIS |
| Interchange Viewer | Allows the viewing of interchange drawings statewide. (This system is no longer being used and is currently being removed from workstations 7/25/06). |
| Internet Employee Search | Employee information is downloaded from the mainframe on a daily basis.  This information is merged with other information that is maintained on SQL and the results are stored in a SQL database. |
| Internet Standard Item Table Unit Bid Applications | Inquiry to Standard Item Table.  Inquiry only can be replaced by functionality in EBASE or Internet Applications. |
| Inventory Process | Process that reconciles SCCM and Remedy Asset for annual IT inventory. |
| IP Addresses | A system for keeping track of IP addresses, who owns them what devices they are assigned to, and so on. |
| IT Account Master | Storage master and computer operations use this to validate logon accounts and billing accounts. |
| IT Administrative Support | This is an administrative function for overtime pay reporting, and monitoring of IT core expenditures. |
| IT Contracts | The Contracts database contains the active contracts currently in use. subscriptions, etc.) as well as amendments. |
| IT Executive Dashboards | This is a HTML application which displays charts and graphs on IT KPI's from the Asset data mart. |
| IT SDC Common Routines | These are common routines used by all MIS Systems. |
| IT Task Management | Track tasks for and time spent on developing and supporting applications by OIT application support analysts. |
| Labor Collection / Payroll Expenditure Reporting | The Labor Collection and Payroll Expenditure Reporting systems collect and process data about employee hours worked, leave taken, and financial details associated with labor hours |
| Labor Data mart | Expenses, equipment hours and other Timesheet data from Payroll Labor, exclusively. Does not include labor journal voucher transfers done in TRAINS. |
| Laboratory Information Management System | Provides the Materials Laboratory staff with online access to the materials testing and other laboratory data. |
| Legislative Maps | Legislative Maps are GIS maps on highway construction program projects by legislative district.  Legislative maps are built from data provided by the Capitol Program Management System (CPMS). |
| Lessons Learned | A system for keeping track and sharing construction lessons that are encountered in the course of a project. Keeping tack of these will improve construction as time goes on by not repeating mistakes, or using better methods. |
| Local View | Application to allow local agencies to view their streets and monitor pavement condition on those streets. |
| Locator Log | Provides a means for inventorying roadway items. |

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| LPILE PLUS | Lateral pile analysis. |
| Manual Counts | This application is used to read data from manual count boards, add header information, print out reports and produce intersection diagrams prior to a subset of the data being uploaded to the mainframe. |
| Manual Counts | Process traffic counts collected by individuals for upload and processing by mainframe programs. |
| Materials Accreditation and Testing System | Standardize agency test information recording and provides a stable central data repository. |
| Materials Lab Documents | Document management application for Scan/Store/Retrieval of documents. |
| Materials Tracking Program | Provides the ability to record and assign construction documents and material information to agency Project Offices. |
| McDonald Mailing List Database | Application used by Secretary of Transportation Doug McDonalds office to keep track of contacts and all contact information. |
| Merlin-DASH | Analysis and design of steel bridges. |
| MGSFlood | Continuous Simulation Hydrologic design software for estimating storm water runoff and treatment facilities in western Washington. |
| Minor Capital Inventory | Tracks location of equipment and depreciates equipment over $5000 for reporting to Statewide Asset Reporting System (SARS). Handles the physical inventory for Minor Capital. |
| Module Counts | Reformats outputs from GK serial data ports for upload and processing by mainframe programs. |
| Monthly Construction Reporting | Provides high-level construction contract information and specific project information for the public (reports and update the Trout web server) was well as internal use to answer ad hoc questions. |
| Monuments/Survey Information System | Set of entities and attributes as referenced to individual geographic locations (points). |
| Mountain Pass Web | Provides Mountain Pass traffic on the Traffic and Weather Web site and the 511 System. |
| National Flood Frequency Program | Hydrologic design software for estimating magnitudes and frequency of flood peak discharges and flood hydrographics. |
| NCR Daily Leave | Server based workflow approval application for regional leave slips in North Central. |
| NCR Shared Leave | Server based application for regional shared leave process in North Central. |
| New Products | Review new products from businesses for use in WSDOT. |
| NewWim | The Weigh in Motion (WIM) Database application is designed to error check data files received by the WSDOT Transportation Data Office.  It tracks missing days in the file as well as patterns of bad data.  It also creates data that can be graphed through a separate program and keeps copies of reports to be viewed at a later date. |
| North Everett Timesheets | Timesheet system for the North Everett Project Office. Migrated from earlier versions of Filemaker. |
| NW Region Scoping Analysis and Budgeting System | SMARTS information can be shared with SAAB through a direct database link. |
| NWR Design | Document management application for Scan/Store/Retrieval of documents. |

| NWR Error Check | A traffic utility program that checks traffic count files for Seattle site errors and produces a list of sites whose data is not correct. |
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| Olympic Region Photos | Imaging Application for storage and retrieval of bridge inspection photos for Olympic Region bridge department. |
| OMWBE Reporting | Extract expenditure data from TRAINS General Ledger for reporting to OMWBE (Office of Minority and Women's Business Enterprises) . |
| Onboard  Ferry data collection | Application to collect weather data using Campbell software from ferry vessels and send collected data to UW for analysis and publish on ferry weather site |
| On-Line Training Registration System (WebBase) | This is the application that the T2 (Technology Transfer) Center in Highways & Local Programs uses to allow people to sign up for training classes. |
| Out of State Travel | Authorization for out-of-state travel for attending conferences or training routing system. |
| Outdoor Advertising Inventory and Permitting System | System to keep track of outdoor advertising signs on state routes |
| Payroll Backup | Payroll Reporting information. |
| Payroll System Reporting | Payroll Expenditure Reporting. Also acts as the source of employee information for the Labor Collection System. |
| Payroll Workflow | Workflow and Imaging application for processing, storing, and retrieval of Payroll documents. |
| Performance Management Program | WSDOT's Performance Management Program replaces the existing EDPP/MDPP process. It is designed to foster a positive, performance-based culture. |
| Personnel Archive Database | Creates an easy web front to the Personnel Archive Database. Allows users to retrieve, edit, update, and add past employees of WSDOT. |
| PGSplice | Spliced precast pre-stressed concrete girder analysis software.  Companion tool with PGSuper.  Distributed under the terms of the Alternate Route Open Source License. |
| PGSuper | Prestressed Girder Superstructure Design and Analysis software. Distributed under the terms of the Alternate Route Open Source License. |
| PMRS External Reports | This application is used by the public to search for project pages and reports on the WSDOT capital projects. |
| PMRS Legacy Reports | The PMRS Reporting system is a web-based application for generating project management reports that aggregate data from Primavera Project Manager (PM), CPMS, and the Specialty Group Comment Database. It also provides data entry and storage of custom data fields such as project comments that don't exist in the other systems. |
| PMRS Project ECM | Document management system for project delivery documents |
| PMRS Project Management Utility | .Net based application for setting up projects and applying permissions in the PMRS Project ECM system. |
| Primavera Contract Manager | Primavera Contract Manager is a document management, job cost and project controls solution which: provides visibility into contractor performance, facilitates coloration, and streamlines contract and document administration. |
| Primavera Project Scheduler | Primavera P6 lets you manage projects of all types and sizes. It combines scheduling, communication, resource management and reporting analysis |

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| | in one software tool. This single solution adapts to various levels of complexities and scales to meet the needs of various users, functions and skill levels. |
| Primavera Web | Web based interface for Primavera Project Scheduler. |
| Priority Array Tracking System | PATS collects, maintains, and tracks data on WSDOT's highway deficiencies across the state. System functions include: |
| Professional Membership Tracking System | The agency is required to track the number of agency-paid memberships, along with the amount of funds used for paying these memberships. This application is used to approve, track and monitor all agency paid memberships. |
| Project Control and Reporting System | The main reporting system for the PC&RS Office for monthly and quarterly reporting. |
| Project Delivery Information System | PDIS is an project management tool and database that works within WSDOT's Managing Project Delivery methods for effective and efficient project delivery.<br>**In process of being retired in favor of Primavera P6** |
| Project Estimating and Scheduling | The Project Estimating and Scheduling database retains data and calculations on facility design and construction projects. |
| Project Summary | Project Summary collects project information during the initial phase of the project scoping process. Project Summary documents the WSDOT commitment for scope of work and communicates Design, Planning and Environmental decisions. |
| Public Disclosure of Collision Reports | Provides a need for tracking monies received from the public for copies of collision reports |
| Public Disclosure Request Tracking System | Used to track all requests for public records made to WSDOT. |
| Purchase and Order System | Purchase and Order System includes 5 forms/applications: Field Order Stores Issue (8420) Stores Withdrawal Purchasing Card Order Bid / Quotation Request |
| Purchase Card Management System (PCMS) | The PCard Management System (PCMS) provides the means for DOT purchasing cardholders to view their transactions, reconcile them, interface with Remedy, validate the accounting codes against TRAINS and export directly to TRAINS to generate payment documents , keeps tracks of Purchasing Card related administrative records and updates accounting data in the data warehouse. |
| QConBridge | HL93 Live Load Analysis for continuous bridge structures. Distributed under the terms of the Alternate Route Open Source License |
| Qualified Products List | Provides a list of products that have been pre-qualified for use on WSDOT construction projects. |
| Quality Assurance Specification | Stores test data related to paving, specifically to asphalt. Calculates the bonus or penalty a contractor may receive as test data on the asphalt is entered. |
| Quality Tabulation Structure Notes | Smart Excel spreadsheet used for project bid item tracking. For each bid item entered quantities and notes are kept in an easy to follow 11X17 spreadsheet document. |
| Radio Log | Log radio communications between Region radio operators and highway maintenance workers |

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| Radio Towers Information System | Secure inventory of government radio tower infrastructure. Secure web application with GIS interface from ArcIMS server. Established by Legislative mandate. |
| Railroad Crossing Elimination Program | A system for on-line grant applications via the web to apply for Federal Aid grants for elimination of hazardous RR crossings. Used sporadically when grants are being accepted. |
| Range Tracking | This service is used to determine decision sight distances to support the identification of No Passing Zones. This is a non networked vehicle based application. Two computers - interfaced to distance measuring instruments - along with wireless modems compose the bulk of the system. |
| Real Estate Deeds Documents | Document management application for Scan/Store/Retrieval of Real Estate Deeds. |
| Real Estate Information System | REIS is a tool for estimating, tracking and management of projects. A modular development approach has been followed with REIS having several modules: - replaced by IRIS |
| Real Estate Services - Electronic Review | This is an electronic workflow of the disposal requests for WSDOT properties. The system collects recommendations on the surplus or lease of properties and electronic key approval for this process to proceed. |
| Record of Materials | Record of Materials is a list of major construction items used on a contract. It is produced at OSC and then downloaded by the Project Engineer. The list is used as a base for tracking material items on a contract. |
| Record Services | Processing and Management of Records and Information. Record Archiving. This application is designed to keep track of and help locate WSDOT's business documents. |
| Region Technical System | Captures material test results at Regional testing centers for Asphalt, Grout, Ignition Furnace Calibration, Blends, Aggregate, Cylinders, Gauge Correlation, Multi-Grading and generates reports. |
| Reliable Travel Times | Public web page for reporting on how long a trip will take in the Seattle Metro area. Users choose a start and end location and an estimate for how long the trip will take is returned. |
| Remedy Action Request System | ARS is a programming tool. client/server based. |
| Remedy Asset Management | This is DOTs official Purchasing and Inventory Management system for IT purchases and equipment. This includes the complete life cycle of assets from requisition to disposal. |
| Remedy helpdesk ticket status | Display users' currently active Remedy Help Desk on an Intranet web page. |
| Remedy Library Reference & Request Management | Library Reference & Request Management is a forms based application focused on trading request and effort. |
| Remedy Mats Lab Equipment Tracking | Mats Lab Equipment Tracking is a form based inventory system that also tracks scheduled testing and calibrations of equipment. |
| Remedy Payroll Request Tracking System | Service Desk application created for Payroll to manage requests and issues. |
| Remedy Service Desk | IT Service Management - incident and problem management system with service level management which includes notifications and escalation paths. |

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| Report Generator | Generates reports of test results using Adobe Acrobat PDF 3.0 when a field ('Ready to Report') in the Lims Database is flagged as "Y". The PDF is stored and distributed by email from an email list in the Lims Database. |
| Research Project Management Database | Application to track WSDOT research projects |
| Retired Professionals | A HR web based system for retired professional engineers to post their resumes on-line so that they may be available for employment by local agencies. |
| RMCalc | Restraint moment calculations for precast girder bridges made continuous |
| Road Access Management Permit System | WSDOT is required to manage all access to state highway system that are not in a centrally incorporated area. |
| Roadside Features Inventory System | A GPS-based system that will be used to gather select roadside features, post-process those features to improve the GPS accuracy, transfer that data to HQ for processing into a corporate ESRI database for use in the GIS Workbench. |
| Roadway Data mart | This database is the repository for roadway geometric data found in the TRIPS system. It provides the ability to search for a collection of roadway elements based on the customer request. The Roadway data mart is an integral component of the WSDOT Data Warehouse. |
| Rumble Strips | This is a desktop application that is used to collect and maintain state route rumble strip information for inclusion in the TARIS database. |
| RunIRD | A traffic utility program that converts binary data from traffic counter files into ASCII. |
| Safety Management Accident Review Tracking System | This application helps the NW Safety Management group handle reviews of high accident locations (HALs), high accident corridors (HACs), and pedestrian accident locations (PALs). |
| SCAN Billing Datamart | Provides access to monthly billing information from DIS concerning our use of the SCAN system. |
| Scanweb | Poll, record and provide web access to weather station data. |
| School Bus Stop Inventory | Internal application used by the Traffic Office to track school bus stop zones on roads and highways maintained by WSDOT. Tracking is mandated to WSDOT by RCW. |
| SDC Cross Reference | A cross reference utility that runs on the IBM Mainframe. |
| Seattle VMS pages | Public web page where the current message being displayed on Variable Message Signs around the Seattle area can be viewed. |
| Short Duration Counts | Document management application for Scan/Store/Retrieval of documents. |
| Sign Shop Order System | Automated sign ordering system for WSDOT Sign Shop. Used by Traffic, Construction and Maintenance personnel to order highway signs from the sign shop. |
| Sign Specifications & Cost Estimation | Used to document sign removal, installation, and relocation information for highway construction projects that are included in the set of standard plans. |
| Signal Maintenance Management System | A database system to help the Signal Maintenance department manage work and inventory data. SIMMS is used to enter work reports for maintenance jobs, print timesheets, and maintain location records for |

| | Signals inventory. |
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| Snow Entry | Internal web page used for entering the current snow depth at Snoqualmie, White and Stevens pass. |
| Specialty Group Database | Special Group Comments are entered via web application and loaded onto database. Database is then loaded into PDIS and Primavera P6. |
| SSIS Oncore data replication process | Collect PMP data from OnCore database and copy into the Northwest database to generate reports and other information |
| State Route Viewer | Internal DOT Web/VB application for viewing roadway perspective images of Washington State routes. |
| Statewide Situation Status | Application to keep track of the incidents happened on freeways action taken, communication and resources mobilized. |
| Statewide Transportation Improvement Program | Local agencies, in order to receive federal funding for transportation projects, must have planned those projects. The STIP is the document containing the list of planned projects. |
| Statistical Analysis of Materials | Provides analysis of the test results and calculates the quality assurance pay incentive for use by agency staff and contractors in resolving noncompliance issues found during construction inspections. |
| StormShed | Hydrologic and Hydraulic design software for calculating runoff and conveyance design as well as stormwater treatment facilities. |
| Stormwater Inventory System | The business function of the StormWater inventory system, is to meet the federal, state, and local regulations relating to controlling contaminated stormwater runoff and reducing stormwater flows |
| SuperSQL | Lots of Data. |
| Survey Monument Database | Survey Monuments tracks the location, status and history of survey monuments for Washington State Highways. The Survey Information System database maintains a set of entities and attributes that refer to individual geographic locations. |
| SWR Timesheets | Application for the Chehalis Project Office to fill out and submit electronic timesheets. Pilot in PEO, then to Region. (OIT Developed for regions) |
| Task Order (130-010) | Task Order Application (DOT form 130-010) |
| TDMValidation | A traffic utility program that allows a user to validate that a site has data in the traffic data mart. |
| TDO Traffic | A collection of applications: MainWim, VolCheck, Dirsel, that collects, tracks and helps maintain traffic count data. |
| Tester Qualification | The Tester Qualifications program was created to help track the credentials of laboratory staff in the Washington State Department of Transportation Materials and Regional Labs. |
| TRACS - Trans. Allotment and allocation Control System | Sub-system of TRAINS |
| Traffic - ASCIICheck | The ASCII Checker program is a traffic count utility program designed to read through an ASCII file deleting lines that meet a specified criteria. A new file is then written without the deleted lines. |
| Traffic - NewWim | The W.I.M. Database application was designed to error check data files received by the D.O.T. Data Office. It tracks missing days in the file, as well as patterns of bad data. It also creates data that can be graphed through a separate program. It also will file away reports to be viewed at a later date. |

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| Traffic - Submittal | Retrieves data from the G: drive that was loaded via the automated counters. Reformats into bin 4 data and creates new file on G: drive. |
| Traffic - TC Checker | This program is designed to test a file before sending it to the TC Mainframe program.  It checks to make sure the data in the file follows the rules for input into TC.  The program reports on any errors found so the user can manually fix the file before sending it to the TC mainframe program. |
| Traffic - Volume Checker | Volume Checker is a traffic program utility that retrieves the mainframe file and loads it to a SQL table. The users can then edit work on the file and/or do data analysis (e.g., build graphs). |
| Traffic - VTRIS Help | A traffic utility program that takes data that was loaded to a drive from automated counters and converts the old TMG (Traffic Monitoring Guide) format to a newer TMG format. |
| Traffic & Weather Mobile application | Web application to display traffic and weather information on small screen devices  and smart phones |
| Traffic & Weather Portal Website | The WSDOT Traffic and Weather project collects and disseminates real-time and predictive statewide road and weather information. |
| Traffic Accident and Roadway Information System | TARIS is a SQL database that contains traffic, roadway, and collision data downloaded from the TRIPS mainframe database (I-695 funding cuts impacted plans for this system and the current database is basically a "shell" of what is needed). |
| Traffic Accidents | Process and track accident information. |
| Traffic Action Tracking System | TRACTS provides a central location to store critical traffic project data (work type, location, assignments, due date). Provides metric data to measure the performance of the Traffic organization. |
| Traffic Data Mart | This database is the repository for all traffic count data found in the TRIPS system. It provides the ability to search for a collection of traffic count elements based on the customer's request. The Traffic data mart is an integral component of the WSDOT Data Warehouse. |
| Traffic Planning Trends | This application is an interactive map for the internet that displays Annual Average Daily Traffic (AADT) volumes on the State Highway System. |
| Traffic Sign Management | Traffic Signs Management System inventories all of the signs installed by the Department of Transportation, Traffic Office, on various state and inter state routes across the state. |
| Training Evaluation Application | After completing training course, students will access the Course Evaluation Application on the WSDOT Intranet. |
| TRAINS Web Service | Web service providing access to certain functions in WSDOT's TRAINS accounting system: |
| Transmittal System | Creates an electronic transmittal form for the samples of materials that are to be tested by the Materials Laboratory personnel that were sent in from project offices. |
| Transportation Asset Reporting and Tracking System | Reports on depreciation of department assets. Contains a module used by Minor Capital and Capital Facilities for computing depreciation. Compiles value and depreciation for reporting to SARS. |
| Transportation Data Office (TDO) Scanning & Indexing | The Transportation Data Office, the Office of Information Technology, and the Records Management Section have collaborated to successfully scan and index several document types residing at the TDO: |

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| Transportation Engineer Recruitment | Provides a Web-based application process for TE1 recruiting. Applicants complete an evaluation questionnaire. Qualified applicants are identified and reports are provided to HR and regions. |
| Transportation Executive Information System | TEIS is a suite of programs designed to facilitate legislative planning and oversight. It provides budget preparation and executive summary information about a variety of activities to transportation agency managers. |
| Transportation Information Planning and Support System | TRIPS maintains and processes current and historical data about the WSDOT roadway network, traffic volumes and classifications, collisions, and collision severity. System functions include: |
| Transportation Reporting and Accounting Information System | TRAINS accounts for all WSDOT revenues, expenditures, receipts, disbursements, resources, and obligations. It is a highly customized version of an American Management Systems (AMS) software package. System functions include: |
| TRIPS - Collisions | TRIPS is an integrated, automated roadway, traffic, and collision tracking application stewarded by the TDO. The application is designed to provide engineering, maintenance, planning and accounting personnel with up-to-date highway geometric, traffic and collision data. The TRIPS application includes both current and historical information about the State highway system. |
| TRIPS - Roadway | TRIPS is an integrated, automated roadway, traffic, and collision tracking application stewarded by the TDO. The Roadway part of the application is designed to provide engineering, maintenance, planning and accounting personnel with up-to-date highway geometric data. The TRIPS application includes both current and historical information about the State highway system. |
| TRIPS - Traffic | TRIPS is an integrated, automated roadway, traffic, and collision tracking application stewarded by the TDO. The Traffic part of the application is designed to provide engineering, maintenance, planning and accounting personnel with up-to-date traffic data. The TRIPS application includes both current and historical information about the State highway system. |
| Unstable Slopes Management System | USMS allows the entry and storage of slope information, ratings and cost estimates. |
| Utility Franchise Permits | UFP is a client/server application written in PowerBuilder with a SQL Server database. The Utility/Franchise Permits System (UFP) lets you enter, edit and view utilities, franchise, and permit information in a variety of formats. |
| Washington Bridge Foundation Libraries | Programmable software components for bridge engineering. |
| Washington Bridge Inventory System | The Washington State Bridge Inventory System (WSBIS) is an integrated, bridge inventory system designed to be used throughout WSDOT. |
| Washington State Aviation System Plan | Provides web access to Washington State Aviation System Plan data about Washington state airports. |
| Weather Station Reporting | An Internal web application where information from weather stations can be viewed and reported on. |
| WEB Cameras | Displays Ferry lots, docked vessels, etc. for the public |
| Websense Web Filter | Based on Customer access profile, software filters allowed internet traffic based on predefined categories of webpage type |

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| Wetland Monitoring Databases | The wetlands database is a tool for the Environmental Affairs Office to ensure compliance with regulations and identifies any sites impacted by construction.  The agency monitors  Wetland locations. |
| winBDS | Box girder bridge design system. |
| WINDS | vessel and terminal workforce resource planning/scheduling application. |
| winFAD | Footing analysis and design. |
| winRECOL | Reinforced column analysis and design. |
| winSEISAB | Seismic analysis of bridges. |
| Winter Operations | The Winter Operations application is a state-wide web based Mapping/GIS system(Geographic Information System) to track winter vehicles. The system currently display's live truck icons that show current location, travel direction, and the function the truck is performing (I.e., chemical treatments, plowing, etc.) along with the current road condition (icy, compact snow and ice, bare and wet, etc.). The system also allows reporting of the winter vehicles and materials usage. |
| Work Order Authorization | The WOA - Work Order Authorization is a statewide electronic workflow document management web application used for the authorization of funding expenditures for new work orders, modify existing work orders and to close work orders. |
| Work Order Grabber | Work Order Grabber transfers work order information from FIRS and CCIS to the LIMS (Laboratory Information Management System). |
| Workforce Management | Historical Work Force Expenditures (detailed) used to aid in forecasting future workforce needs. |
| WSDOT Alerts | web application used for formatting and sending via email messages information regarding traffic and weather alerts. |
| WSDOT Archives | Document management application for Scan/Store/Retrieval of OIT Support Related documents. |
| WSDOT Data Catalog | A Web application for retrieving and storing meta data about WSDOT data. |
| WSDOT Data Warehouse | A collection of data designed to support management decision making.  It allows reporting and analysis of data for those who need to make strategic decisions or analyze information on agency products., administration, or operations. |
| WSDOT eDocs Importer | .Net based application for the electronic importing of documents into the agencies document management systems. |
| WSDOT Incident Tracking System | System is used to track and report field reports of Incident Response Team (IRT) participants.  System includes 2 FM Servers - one internal (main) and one external server. |
| WSF Accounts Receivable Interface | This system provides an interface between the WSF Point of Sale system (POS), the WSF Automated Revenue Control System (ARCS), the US Bank, and TRAINS for the charge slip monitoring, limited charge slip data entry, |
| WSF Automated Operations Support System | Washington State Ferries, in order to better serve its customers and to meet or exceed current and anticipated international safety regulations, |
| WSF CCR Load | loads credit card data from EFS into CCR Database for processing |
| WSF Claims Management System | Claims Management System tracks and analyzes all WSF customer incident reports and all public claims and associated dollar costs. |
| WSF Coast Guard Documents | CGDocs is an add-on to the existing Vessel Technical Library system to |

| | electronic search, display and print of the scanned images of correspondence between WSF Vessel Library and the Coast Guard. |
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| WSF Consumable Inventory | Tracks WSF Consumable and Eagle Harbor Inventory. Initiates & Tracks Store Wants needs. |
| WSF Contract Agreement Tracking System | Consultant Agreement Tracking System (CATS) to track consultant agreements, task and supplemental budget allocations, and Management Reserve Fund allocations for Washington State Ferries. |
| WSF Contracts Administration | Present the general public with the contracts information |
| WSF Credit Card Refunds | Processes refunds to WSF credit card sales. |
| WSF Customer Inquiry System Interface | Web application allows customer inquiry |
| WSF EFS Exception Report | examine a chronological group of entry, usage and exit records for a particular auto booth and date range. |
| WSF Electronic Fare System | Electronic Fare Collection for the Washington State Ferries. |
| WSF EPI Suite | Electronic personal identification suite - EPI Suite (EpiSuite) is a credentialing application.  The application was developed by ImageWare Systems, and modified by WSF.  Used by the Homeland Security department to issue ID cards to Employees, Venders, Contractors, Spouses, Dependents, and Retirees.  This system is also used to store information about keys that have been issued. |
| WSF Fleet Location | Software provided by Meteor to monitor real-time vessel location and replay past vessel travels.  Current vessel location information is fed to public WSF Ferries web page. |
| WSF HAZCOM | WSF maintains an inventory of approved chemical products through its online HAZCOM database |
| WSF Information Agent Support | ARGO is the reservation system component of  Automated Operations Support System (AOSS). |
| WSF Integrated Dispatch System (WINDS) | Replaced an old system with increased functionality for maintaining crew members on vessels |
| WSF Key Systems (GFMS) | Controls the release of keys by personal identification (card) that gets access rights information from the Vigilos volt. |
| WSF Labor System | Supports Labor/Payroll, Human Resources, Budgeting, Accounting. Collects Time Sheet Labor Transactions for Employee Pay and Labor Expenditure Generation. Provides Labor costing for TRAINS, MPET and multiple reporting processes. |
| WSF Lost&Found | To keep track of the items lost or found at the WSF ferries and terminals |
| WSF Marine Expenditure System | Extracts monthly WSF General Ledger Expenditures. Prepares and feeds expenditures to RT - BEARS. Generates Expenditure Reports for Accounting.  FTP's Daily GL and Monthly GL Transactions to server for further reporting and ad hoc inquiry. |
| WSF Material Management System | MMS - MPET application issues and tracks maintenance work requisitions, both corrective and preventative,  for the WSF Terminal Maintenance Engineering, Terminal Engineering, Eagle Harbor Repair Facility and vessels. |
| WSF NSF Tracking | NSF Tracking System to minimize NSF check amounts, track and monitor all NSF checks that are received, and make collections for NSF checks. |
| WSF Queue Delay Estimation | Provides accurate information on arrival times of ferries at each terminal |

| | by collecting data on the location, speed, heading, and capacity of vessels on the WSF fleet. |
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| WSF Revenue Control System | Revenue Control System (RCS) - Used by WSF Accounting Services to perform all revenue accounting functions associated with POS revenues. The system uses data transmitted nightly from the POS system. |
| WSF Security Drill Log | USCG mandated security drills log for Terminal Personnel |
| WSF SMS Document Control | SharePoint based application for SMS Manuals distribution |
| WSF SMS Non-Conformity | Remake of the old SMS application in .NET |
| WSF Technical Library System | The Vessel Technical Library Database identifies the current documents, electronic and physical, of the Washington State Ferries Vessel Design Department's Technical Library |
| WSF Terminal Daily Cash | To reconcile Terminal daily Cash for EFS |
| WSF Terminal Engineering Materials Tracking | Automated network-based application that provides the ability to track, monitor and report on items contained within WSF Terminal Engineering contracts. |
| WSF Terminal Records Resource System | Enables WSDOT employees to identify and determine the physical location of WSF terminal contract records. |
| WSF Traffic Statistics System | WSF collects and stores ticket sales information and, for traffic statistics purposes, categorizes the ticket sales counts by type of fare. |
| WSF Traffic Stats Loader | Load EFS Fare types into Traffic Stats Application |
| WSF Transportation Allocation and Allotment System | Management tool to aid in the Budget process. |
| WSF VB Administration | The WFVBA Application(s) and the WebFerries database serve the Washington State Ferries needs for Pass Fulfillment, online storage of pass serial numbers and Subscriber Lookup activities. |
| WSF Vessel Technical Library | WSF Vessel Tech Library is on electronic search and display system for WSF Vessel Technical Drawings. |
| WSF Vessel Watch | Shows location of the ferry boat on the Web in real time |
| WSF Vigilos | Video / Security System monitoring application. |
| WSF Web | Provides a simple way for customers to access transit, highway, and ferry tourist and travel information through the WSF and other regional transit Web home pages. |
| WSF Web Reservation | Allows general public to make reservations on Anacortes/Sidney B.C. and Pt.Townsend/Keystone routes over the web |
| WSF Web Services | Public Fares; Public Schedules; Vessels, Terminals |

# I. Database/Data mart Information
## Summary Information

**Database/Data mart by Database Management System** – WSDOT's databases utilize four different database management systems. Of these database management systems, only the SQL server platform is being used for our datamarts, although there are Informatica processes which export data from the mainframe to the SQL environment for additional datamart integration.

**Database Portfolio**
WSDOT has the following databases currently listed in the Database/Data mart Portfolio.  There are 240 which are considered mission critical.  Information on the mission critical databases is available through OIT's Data Management Services.

# Data Mart Portfolio
WSDOT has the following 14 business subjects in the WSDOT Data Warehouse.

| Data Mart Name | Environment | Server |
|---|---|---|
| Accounting data mart | SQL Server | DOTDBOLYDS01 |
| Asset data mart | SQL Server | DOTDBOLYDS01 |
| Collision data mart | SQL Server | DOTDBOLYDS02 |
| Construction data mart | SQL Server | DOTDBOLYDS01 |
| Consumable Inventory data mart | SQL Server | DOTDBOLYDS01 |
| Data Warehouse Data Usage dm | SQL Server | DOTDBOLYDS01 |
| Facilities data mart | SQL Server | DOTDBOLYDS01 |
| Ferries Fares data mart | SQL Server | DOTDBOLYDS01 |
| Human Resources data mart | SQL Server | DOTDBOLYDS01 |
| Labor data mart | SQL Server | DOTDBOLYDS01 |
| Program Management data mart | SQL Server | DOTDBOLYDS01 |
| Roadway data mart | SQL Server | DOTDBOLYDS02 |
| TDO Traffic data mart | SQL Server | DOTDBOLYDS02 |
| TEIS Reporting data mart | SQL Server | DOTDBOLYDS01 |

Details on each of these data marts are available from OIT's Data Management Services.

# m. Critical Datasets

| Database Management System Platform | Number of Databases/Datasets | Mission Critical Databases | Vital Databases | Essential Databases | Important Databases |
|---|---|---|---|---|---|
| SQL Server | 459 | 159 | 13 | 117 | 170 |
| Adabas/VSAM | 165 | 35 | 62 | 41 | 27 |
| FileMaker | 25 | 4 | | 9 | 7 |
| GIS Datasets | 61 | 42 | | 5 | 14 |

- *Mission Critical databases have an impact on ability to share critical information, impact on mobility (moving people & goods), impact maintenance of public health & safety or have mandates or legal requirements.*
- *Vital databases include payments to employees, payments to vendors or contractors or contain receipts from any source.*
- *Essential databases have impact on program delivery, impact on public image, have other cash flow impacts or have regulatory impacts other than mandated or legal.*
- *Important databases have individual impact, unit level operational impact or workgroup impact.*

WSDOT identifies, stores and updates Database criticality information in the WSDOT Data Catalog system.   For specific information about geodatasets, contact the WSDOT GIS Data Administrator. WSDOT makes GIS data it generates accessible for others to use through the GeoData Distribution Catalog found at http://www.wsdot.wa.gov/mapsdata/geodatacatalog/default.htm#main.

| Name | Description |
|---|---|
| **Transportation** | These datasets represent information about the transportation system.  A partial listing includes:  State Highways, Railroads, Abandoned Railroads, Capitol Improvement and Preservation Program Operating Book, Freight and Goods Transportation System – State Routes, Highways of Statewide Significance, etc. |

| | |
|---|---|
| | See a listing of WSDOT generated transportation data at **http://www.wsdot.wa.gov/mapsdata/geodatacatalog/default.htm#main.  Note: Datasets used by WSDOT that are acquired from others are not included on this list.** |
| **Political and Administrative Features** | These datasets are used for data presentation and analysis.  A partial listing includes counties, cities, urban areas, legislative districts, congressional districts, Indian reservations, National Forests, National Parks, WSDOT Regions, and WSDOT maintenance areas.<br><br>See a listing of WSDOT generated political and administrative boundary data at **http://www.wsdot.wa.gov/mapsdata/geodatacatalog/default.htm#main.  Note: Datasets used by WSDOT that are acquired from others are not included on this list.** |
| **Geographic Reference** | These datasets are used for data presentation and analysis.  A partial listing includes digital ortho imagery, USGS quadrangle maps (scanned), the public land survey grid, township grid, latitude and longitude lines, and shaded relief.<br><br>See a listing of WSDOT generated political and administrative boundary data at **http://www.wsdot.wa.gov/mapsdata/geodatacatalog/default.htm#main.  Note: Datasets used by WSDOT that are acquired from others are not included on this list.** |
| **Environmental** | These datasets are used for data presentation and analysis.  A partial listing includes fish and wildlife (habitat, sites, etc.), plants, soils, groundwater and wells, hydrography (rivers/streams, estuaries, lakes, shorelines, dams, and water resource inventory areas) water quality, air quality, and hazardous materials.<br><br>See a listing of WSDOT generated environmental data at **http://www.wsdot.wa.gov/mapsdata/geodatacatalog/default.htm#main.  Note: Datasets used by WSDOT that are acquired from others are not included on this list.** |

## n. Platform and P-25 Compliance

Without funding for the SGN project, only 2% of staff have access to the DIS backbone due to business requirements.  The additional information required by DIS for the IT Portfolio which doesn't fit in other sections of this report include the Network operating system, desktop office suite and P25 compliance Radios:

| | |
|---|---|
| **% of WSDOT with inside WA Access** | 2% |
| **WSDOT Primary Network Operating System** | Windows 2003 R2 (Note:  WSDOT is in the process of migrating all the servers to Windows 2008 R2 expected completion 12/2011) |
| **WSDOT Desktop Operating System** | Windows XP |
| **WSDOT Desktop Office Product Suite** | Office 2007 |
| **WSDOT XML Enabled?** | Yes |
| **WSDOT Radio's with P25 Compliant** | 2 |
| **WSDOT Radios without P25 Compliant** | 4560 |

WSDOT is working on an implementation plan for Windows 7 to start sometime in second quarter FY2011 and completed by the end of the calendar year 2011.

4 – 2010 Technology Investments/Projects

4 - 65

# 4 – Technology Investment/Project Summaries

*"Technology is easy, people are complicated"*

Section 4 - Technology Investment/Project Summaries is based on documentation that is routinely required for effective project management. The information included is a summary of key information extracted from project documentation, including but not limited to project feasibility study reports, and project quality assurance plans.

Project managers are responsible for the project itself and for related documentation. The portfolio model assumes that projects, investments, acquisitions and assets have current documentation available and accessible for use by agency executives, IT personnel, QA professionals and those acting on behalf of the ISB. This section also provides the opportunity to document formal project acceptance by key stakeholders.

The Technology Investment/Project Summaries section is comprised of a summary analyses of each current project and technology investment, including when applicable, information about web-based transactional applications, as required by the IT Security Policy and Standards at http://www.dis.wa.gov/portfolio.

The following investments/projects are summarized in this section:

| Investment/Project | Oversight Level |
|---|---|
| Washington Transportation Framework for GIS (WA-Trans) | Level 2 Oversight |
| Ferries Employee Dispatch System Replacement (WINDS) | Level 2 Oversight |
| Storm-water Information Management System (SWIM) | Level 2 Oversight |
| Tolling & Statewide Tolling Customer Service Center | Level 2 Oversight |
| Ferries Regional Fair Coordination System (RFCS  integration with SmartCard) | Level 2 Oversight |
| Ferries Vehicle Reservation System (Phase 1 approved by ISB on 7/8/2010) | Level 3 Oversight |

Detailed project information is provided in the chart on the following pages.

4 - 65

## Washington Transportation Framework for GIS (WA-Trans)

**Description:** WA-Trans will be a GIS database containing transportation data about roads, railroads, ferries, aviation, ports and non-motorized transportation infrastructure using data from local governments, tribes, state and federal agencies. It is being developed collaboratively with a multi-jurisdictional partnership and incrementally in pieces of limited size and scope. The project has completed the pilots and has begun a phased implementation. The phases are funding dependant. Two separate efforts are underway right now.

The first is called the Seven-County Implementation. This includes the creation of a dataset containing data from Clark, King, Kitsap, Pierce, Spokane, Snohomish and Thurston Counties. Additional funding is also provided to implement Cowlitz, Lewis and Whatcom counties. This implementation includes making the Data Provider Portal production ready and developing software processes to support long-term maintenance.

The second effort is the start of development of an Eastern Regional Dataset Implementation. This will include Spokane County (an active partner), Pend Orielle County and four other counties to be selected from Adams, Asotin, Columbia, Ferry, Garfield, Lincoln, Stevens and Whitman. Once this effort is complete there will be 16 counties in WA-Trans including all but one county in the I-5 corridor and 70% of the software planned for long-term maintenance of WA-Tran will be implemented.

| OVERSIGHT LEVEL > | ☐ Level 3 | ☒ Level 2 | ☐ Level 1 |
|---|---|---|---|

| | |
|---|---|
| **Executive Sponsor :** <br> Amy Arnis, Assistant Secretary <br> Strategic Planning & Finance | **IT Project Manager** Mark Finch |
| **Cost: $** 947,611 <br> **FTE:** 3.2 FTE, 1 Contractor & 2-University graduates | **Schedule:** 11/2009 – 8-2010 |

**Business Driver:** There are several business drivers including supporting FHWA 2010 HPMS/FC reporting requirements, H&LP fatal and disabling collision analysis for distribution of safety funds to local governments. WA-Trans is on the Washington Traffic State Traffic Records Strategic Plan and was a recommendation of a NHTSA evaluation of Washington Traffic Records Process.

The WA-Trans Project has significant benefits statewide. Specifically in WSDOT the following areas will benefit as described:
- Time and cost are reduced to gather data for project scoping,
- Greater efficiencies by the TDO in managing the HPMS and Functional Class processes and reporting to FHWA,
- Facilitate and provide greater efficiencies in development of the Freight and Goods System,
- Provide critical base data for the TDO to more accurately locate collisions. Provide a base map to be used in the TDO incident locator tool. The 7 counties targets in a current implementation are included because 72% of the fatal and disabling collisions occur on the roads in these counties combined. This dataset will be used as the transportation base-map for the update of the TDO CLAS Systems Incident Location Tool and later for law enforcement statewide.
- Support regional transportation planning, and related partnerships.
- Support future improvements to the Travel Options Application.
- Support WSDOT role in the State Emergency Management Plan for developing alternative routes into and out of an incident.

There are other benefits still being documented. Additionally there are significant benefits to other partners of WSDOT including MPOs and RTPOs, local governments.

**Scope:** In terms of software we are pursuing software and geospatial processes in support of:
- Data Change Detection, (90%)
- Data Change Management, (70%)
- Data Integration between providers and across borders, (50%)
- Managing different versions of the same data from different providers. (75%)
- We are beginning work on dynamically handling metadata and deriving metadata from a variety

of sources.  We are partnering with OIT IRM about how to populate the data catalog with the metadata we are collecting and developing.

- We are automating processes to support checking connectivity of data and quality assurance of combined data sets (after CWU is done with them).
- We are working on handling of address "points" (a new and growing way of storing address information in GIS Systems).
- We will have WSU and Spokane County using an ArcSDE database with MS SQL Server so it will be the same as our configuration making exchanging data with them easier, we believe.  Getting this set up with them will take some initial time.

We continue to process data with the universities and Spokane County as before.  The process involves three distinct phases.  They are:

Pre-processing:  Translation into WA-Trans, quality assurance and quality control of data, internal data connectivity and completeness review, change detection and change management, reports given back to the data provider and data submitted to WA-Trans Editing environment.  Much of this is being automated.

Integration Processing:  Analysis of which data provider will be used for which business purposes, connecting between data providers within a single jurisdiction, connecting between data providers between jurisdictions, and applying information and measures about the data consistently across all data for one piece of transportation infrastructure.  This is mostly manual now but will involve some automation to guide the process in the future.

Post-processing:  Quality assurance and quality control of all data across jurisdictions, documentation of metadata about processing performed, loading data into the WA-Trans User Database.  This is going to be both automated and guided manual processing as some automated processes are under development.

We have used this approach successfully for several Counties and it is working well.

## Ferries Employee Dispatch System Replacement (WINDS)

Description:  Replace the existing dispatch system module with a new vessel and terminal workforce resource planning/scheduling application.

The reasons for the replacement are:
- Improve dispatch process and controls
- Ensure regulatory compliance capabilities
- Provide full Engine Room Crew and Terminal Employee dispatch capability in addition to Deck Crew dispatch
- Incorporate business efficiencies
- Replace old/outmoded technology

Provide a system that is compatible with new WSDOT systems and WSDOT Service-Oriented Architecture (SOA) design principles

| OVERSIGHT LEVEL > | ☐ Level 3 | ☒ Level 2 | ☐ Level 1 |
|---|---|---|---|

| **Executive Sponsor**<br>David Moseley, Assistant Secretary<br>Ferries Division | **IT Project Manager**<br>Kate Kruller<br>WINDS Project Manager |
|---|---|
| **Cost:** $ 1,658,199<br>**FTE:**  1 FTE & 1 Contractor | **Schedule:**  1/2007 - 6/2010 |

**Business Driver:  The project will serve the agency and departmental goals of:**
**Risk Mitigation**
- Automated and full compliance with US Coast Guard policy and regulations regarding vessel and terminal staff assignments
- Automated and full compliance with multiple and term-based Union Collective Bargaining Agreements regarding vessel and terminal staff assignments
- Automated and full compliance with any Federal or State privacy laws and regulations related to Employee Information
- Maximum compliance with Payroll industry standards and implemented good-faith Best Payroll Practices
- Efficient, accurate and effective dispatch issues resolution

**Standardization**
- Aligns resources and technology to optimize all operations dispatch performance
- Reliable methods using a stable platform to ensure dispatch process consistency and standardization

Provides governance through leading-edge security, limits of authorities, controlled inquiry and update access to data, reporting and system controls.

**Scope:**  The project status is green in scope, schedule and budget at report deadline.
- The Project Team deployment plan has been adjusted and is authorized by OFM to meet Q2 2010 deadlines.  Reason for the schedule change: Strategic resource allocation, business changes, longer-than-anticipated system fixes and right-time deployment for a smooth transition to WINDS in Deck/Engine Room. Upon approval, the contract is updated to match the IAR - ready for signatures and filing.

- Go Live Status:  The Washington State Ferries Integrated Dispatch System (WINDS) Project is live at Ferries Terminals.  Forty-Two Terminal Supervisors, along with the Terminals Management team, are now using the WINDS dispatch system. A final update to WINDS 1.0 is in progress and target for moving into Production is April 29.  WINDS provides Terminals with the ability to make and track work assignments for 300- 400 employees working at 14 terminals throughout the year.

- <u>Project Activity:</u> The WINDS Project continues working with principle stakeholders and end users at Ferries Operations to complete the implementation and parallel testing phase in the Deck and Engine Room dispatch areas.  Heavy finalization sessions were held for two weeks with the Ferries Operations Dispatch Resource Manager to identify any adjustments required to WINDS release 1.1.  Ferries Operations Deck and Engine Room Dispatch are slated to move from a legacy system to WINDS 1.1 in May.  At that time, WINDS deployment as the complete Dispatch tool used by Deck, Engine Room and Terminals with the WINDS 1.1 release will be in a contractual acceptance period for a minimum of 30 days.

**Terminals Dispatch Deployment Schedule:** Deploy by Terminal/Across 3 Shifts ((Progressive Parallel test)

## Storm-water Information Management System (SWIM)

**Description:** This project is one component of the Stormwater Management Program (SWMP). The primary business driver is to demonstrate and satisfy requirements for compliance with the new WSDOT Municipal National Pollutant Discharge Elimination System Permit (NPDES). This stormwater permit was issued by the Department of Ecology in January 2009. WSDOT's compliance with the permit will support clean water in Washington; salmon recovery efforts; and the quality of Puget Sound.

| OVERSIGHT LEVEL > | ☐ Level 3 | ☒ Level 2 | ☐ Level 1 |
|---|---|---|---|

| **Executive Sponsor**<br>Jerry Lenzi, Assistant Secretary<br>Engineering and Regional Operations | **IT Project Manager**<br>Maribeth Sapinoso, OIT Project Management Office |
|---|---|
| **Cost:** $ 1,317,153<br>**FTE:** 1 | **Schedule:** 12/2009 – 6/30/2011 |

**Business Driver:** Environmental Services, without a SWIM system is (unable to or has been):

- Unable to meet requirements of WSDOT Municipal National Pollutant Discharge Elimination System Permit.
- Unable to meet Stormwater Management Program - Key Performance Indicators.
- Unable to obtain accurate information related to overall inventory. We will need to conduct a quality inventory assessment of the Stormwater Drainage System Inventory, (approximately 20,000+ outfalls), within the Phase 1 and Phase 2 designated areas.
- Unable to map data/taxonomy from system to system. Multiple systems are curently used, and the data and metadata needs to be consolidated and aligned. We will also need to decommission the systems we will no longer be using in the WSDOT environment.
- Alignment of technical systems and repository data, with Maintenance Group's existing field process and procedures as related to Stormwater Management.
- Lack of overall quality control
- Unable to evaluate performance of Best Management Practices (BMPs)
- Provide to the stormwater program, resources to effectively manage and maintain required information, systems, data, and consultant contracts.
- Provide Maintenance & Operations with the resources needed to achieve regulatory compliance and ensure continued program capability to maintain highway system assets and meet Maintenance Accountability Process (MAP) service level targets for catch basins and stormwater treatment and flow control facilities.
- Contribute to managing WSDOT's environmental commitments articulated in the September 2001 Environmental Policy Statement that calls for protecting and preserving "natural resources and other environmental assets and its citizens' health and safety" and to "comply with all environmental laws and regulations applicable to our business and activities".

**Scope:** This **Reporting Period's** Progress

- Final review and approval of a revised Charter (V5.0) is in progress
- Final editing and publishing of UI design documentation for CWQM
- Requirements document signed-off by customer for CWQM and IDDE
- Continue development Issue/Bug resolution for CWQM
- Publish revised schedule for all of SWIM
- Begin review of IDDE Use Cases, and Test Cases
- Document installation and implementation procedures for the EQuIS and Aquarius COTS software applications
- Implement new staffing structure
  - Replaced OIT Project Manager, Elliott Hewitt, who transferred to a position as Ferries, with Project Manager, Terri Ise from OIT on April 1, 2010.
  - Added two development resources

o Added one systems architect for integration
Transition IDDE and COTS to new PM and System Architect

## Tolling & Statewide Tolling Customer Service Center

Description:  Procure a service provider to establish and operate a customer service center / back office for statewide toll collection.  Vendor will be responsible for providing Good To Go! customer and account services including: customer service storefronts; transponder and photo-based toll processing; customer account management; payment processing; violation processing; associated accounting and financial systems support; and reporting.

| OVERSIGHT LEVEL > | ☐ Level 3 | ☒ Level 2 | ☐ Level 1 |
|---|---|---|---|

| **Executive Sponsor**<br>**David Dye, Chief Operating Officer, Deputy Secretary** | **IT Project Manager**<br>Lucinda Broussard, CSC Project Manager<br>Toll Operations |
|---|---|
| **Cost:**  $ 2,824,628<br>**FTE:**  4 | **Schedule:**   1/2010 – 7/2011 |

**Business Driver:**  Engrossed Substitute House Bill 2211 authorizes WSDOT to implement early tolling on the SR 520 corridor, to help finance the construction of the replacement SR 520 floating bridge and necessary landings.  Current customer service center/back office is not sized to accommodate the large increase in accounts anticipated with tolling SR 520.

**Scope:**  Engaged in several partnering activities to help nurture and mature key staff relationships for the success of the CSC project. Specifically, vendor held meetings with WSDOT and stakeholders to explain network and interface. Vendor (ETCC) successfully completed "Program Planning" milestone. The following "Program Planning" deliverables were completed:
1.      Monthly Progress Report (Format)
2.      Pricing Detail
3.      Vendor Program Management Plan
4.      Vendor Communications Plan
5.      Vendor Quality Management Plan
6.      CSC Program Schedule

## Electronic Fare System including Integration with Smart Card (RFCS)

**Description:** Replace the existing Point of Sale and back office revenue accounting system at all (20) Ferry terminals. Integration of a regional simplified fare collection system using smart card technology with 6 participating transit agencies.

| OVERSIGHT LEVEL > | ☐ Level 3 | ☒ Level 2 | ☐ Level 1 |
|---|---|---|---|

| | |
|---|---|
| Executive Sponsor<br>David Moseley, Assistant Secretary<br>Ferries Division | IT Project Manager<br>Roger Hair – Electronic Fare System<br>Brian Churchwell – Smart Card |
| Cost: **$ 18,148,573**<br>FTE: **2 FTE's** | **Schedule:** 9/2006 - 10/2010 |

**Business Driver:** This project is a result of legislative push for a more regional transportation approach.

*Goal – Improve Revenue Controls*
Washington State Ferries (Ferries) Electronic Fare System (EFS) goals was to replace an existing out of date point of sales system with one that would allow delivery of new services such as selling tickets at Kiosks or on the Web, deliver improved revenue controls and provide the necessary infrastructure to support Ferries's participation in the regional Smart Card system.

Scope: During this past quarter we saw a continued increase in January of Ferries customers transitioning from Wave2Go to ORCA mainly due to the requirement of King County Metro that many large employers move from their existing FlexPasses to the ORCA card (e.g. USDOT). Ridership also increased in January since bus/train riders could only receive inter-system transfers with an ORCA card and in March we began charging $5 for an ORCA card.

| | Regional Total Boardings | Ferries Total Boardings | Ferries Average Weekday Boardings |
|---|---|---|---|
| January | 3,490,898 | 57,235 | 2,492 |
| February | 3,904,014 | 58,452 | 2,686 |
| March | 4,685,390 | 69,037 | 2,795 |
| **TOTAL** | **12,080,302** | **184,724** | |
| **Agency %** | **100.00%** | **1.53%** | |

Agency lawyers and ERG continue to negotiate the new terms of Full System Acceptance (FSA) testing due to ERG's inability to meet the original KPIs during their first testing period ending in October 2009. Both parties agree that the KPIs that were set in 2003 during the initial contract were not achievable. ERG will be required to meet these newly negotiated KPIs through our 10 year operating agreement.

In Maintenance Release 9 Ferries received a fix for the 'double taps' at the turnstiles. This is where some customers are tapping their ORCA cards too quickly and when they don't get a fast response, they re-introduce their ORCA card to the reader. Both the 1st & 2nd tap are normally successfully read. If the customer has value in their E-purse, then we are deducting 2 passenger fares. ERG put in a timeout period of 2 seconds between taps which has dramatically reduced the 'double taps'. This will reduce the refunds being done in revenue control.

## Ferries Vehicle Reservation System

**Description:** The proposed vehicle reservation system will be designed to manage demand, spread peak vehicle traffic, improve asset utilization, reduce wait times, and minimize the need for costly terminal and vessel expansion projects.

The vehicle reservation system will also provide enhanced customer service and increased travel predictability. It will provide reservations to all vehicle customers on all but four ferry routes. On the remaining routes, reservations will be offered for commercial traffic.

| OVERSIGHT LEVEL > | ☒ Level 3 | ☐ Level 2 | ☐ Level 1 |
|---|---|---|---|

| **Executive Sponsor** David Moseley, Assistant Secretary Ferries Division | **IT Project Manager** TBD (interviews of candidates from the private sector) |
|---|---|
| **Cost:** $ 2,700,000  Software Acquisition $ 3,800,000  Fixed Project Costs (PM, QA, DBA, Test, etc.) **FTE:** 2 | **Schedule:**  8/2011 – 6/2013 |

**Business Driver:** Washington State Ferries faces a significant capital shortfall in the coming years, as ferry traffic is expected to increase.  Washington State Ferries must devise a solution to meet increasing demand and improve freight mobility that is less capital-intensive than expanding the vessel fleet or terminal footprints

Adding vessel capacity is not a viable option at this time due to financial circumstances.

Adding terminal/vehicle holding capacity is similarly unlikely.

At the same time, commercial/freight traffic on Washington State Ferries is declining, as truckers cannot tolerate the uncertainty of travel time on many busy ferry routes.  The diversion of commercial traffic to highways increases fuel consumption and highway congestion, and degrades the environment.

**Scope:**  1.)  Replace three existing reservation systems with a single, automated VRS for commercial traffic in the San Juan Islands and for general traffic on the international and Port Townsend/Keystone routes

2.)  Assure that all elements of the system are capable of supporting vehicle reservations throughout the ferry system

# 5 – Planned Investments/Projects, 2010

*"They always say time changes things, but you actually have to change them yourself."*

Section 5 – Planned Investments/Projects provides an opportunity for agency executives to view IT investment alternatives in context, rather than as isolated projects.  The contents of the portfolio are drawn from documents that have already been created by each agency in conjunction with its regular management processes.

Each investment in IT must be viewed in relation to:
- Its impact on the business of the agency - as represented by the Agency Strategic Business Plan section of the portfolio;
- Its impact on the agency's technical environment - the Agency Technical Infrastructure;
- Its priority as measured against current investments and other proposed investments - Sections 4 and 5 of the portfolio; and
- The impact, if any, on the statewide IT infrastructure.

The Planned Projects/Investments section is comprised of a summary analyses of each project and proposed technology investment, including when applicable, information about web-based transactional applications, as required by the IT Security Policy and Standards at http://www.wa.gov/dis/portfolio/.

The following investments/projects are summarized in this section.

| Investment/Project | Oversight Level |
|---|---|
| Planning for the next phase of the Critical Applications Replacement Program | Pending Level 2 Oversight **(Not funded)** |
| SGN Re-connect | Level 2 Oversight **(Not funded)** |
| Traffic Operations Performance Monitoring & Management System | Pending Level 2 Oversight **(Not funded)** |

\*09-11 Decision Package

Details are provided on following pages.

| Title | Description/Purpose | Cost Estimate | FTEs | Schedule | Scope | Business Driver/ Strategy Supported | Executive Sponsor | Project Manager |
|---|---|---|---|---|---|---|---|---|
| WSDOT Critical Applications Replacement Phase 3 – TRIPS Replacement (3) | Requesting funding to focus on the three most critical systems that need replacement: Labor Collection and Distribution System/Payroll (**Labor Payroll**), Transportation Information Planning and Support System (**TRIPS**), and Priority Array Tracking System (**PATS**) | '09-'11: $5 million (Not funded) '11-'13: TBD | '09-'11: 14.0 (not funded) '11-'13: TBD | Start –'09 Completion-'13 | Complete replacement of the first system (TRIPS). | The future WSDOT faces will place increasing demands on the existing core systems that simply cannot be met. Future needs will require an integrated set of applications and data with capabilities of agility, flexibility and responsiness. | Bill Ford, Assistant Secretary Administration | Kristine Hubble |
| Continue SGN Re-connect (2) | Protect the investments made by the predecessor of this decision package to connect WSDOT to the State Governmental Network (SGN) by providing the on-going funding needed to support the deployed infrastructure and establish the WSDOT Office of Information Technology (OIT) Security Program in compliance with the Information Services Board (ISB) Security Standards. | '09-'11: $1,691,604 Funding was not approved for '09-'11. '11-'15: $3,383,208 | '09-'11:3 '11-'15:3. | Ongoing system maintenance | Ongoing system maintenance | Preservation | Tim Crabb, Infrastructure Services Manager | Randy Baker, Network Services Manager |
| Traffic Operations Performance Monitoring & Management System (2) | Purpose of the project is to purchase a Traffic Operations Performance Monitoring and Management system that will allow the department to enhance system management and quickly report on the performance and condition of critical components of the "Moving Washington" initiative, such as Integrated Corridor Management and Active Traffic Management, which are integral to the agency's strategic plan. The existing system was developed in 1997 | '09-'11: $1,617,000 '11-'15: $980,000 | '09-'11: 1.25 '11-'15: 1.25 | Start :'09 Completion: '11 Maintenance: '11-'15 | To provide WSDOT with a decision support systems needed to adequately monitor and report on the use and performance of the state roadway system. | Mobility | State Traffic Engineer TBD | Daniela Bremmer |

5 – Planned Investments/Projects

# 6 – Annual Technology Investment and Project Reviews, 2010

*"A project isn't done until the paperwork is complete"*

Section 6 – Annual Technology Investment and Project Reviews consists of three sections; a review and update of each ongoing level 2 and 3 IT investment or project, a post-implementation review of any level 2 or 3 IT investment or project completed since the previous annual update, and a copy of the Annual Compliance Letter.

The project review of each ongoing level 2 and 3 investment or project is performed as part of the annual update of the IT portfolio.  This review is to compare expectations for the investment or project as documented in the original investment analysis and project plan against the current project status.

For projects completed since the last annual portfolio update a post-implementation review is included. This review assesses the causes and impacts of any significant reductions in benefits, increases in one-time or continuing costs, problems with project management, or increases in project risk during the course of the project.  It documents practices and procedures that lead to project successes with recommendations for applying them to similar future projects, and recommendations for improving the planning, management, and quality control of future, similar investments or projects.

Section 6 is broken down into the following sections:
   a.    Annual Reviews
   b.   Post Implementation Reviews

## a. Annual Reviews
The following projects with an oversight level of 2 or 3 are ongoing. The Annual Review is based on the final Quarterly Project Review as of August 2010 for the projects.

| Investment/Project | Oversight Level |
|---|---|
| Washington Transportation Framework for GIS (WA-Trans) | Level 2 Oversight |
| Ferries Employee Dispatch System Replacement (WINDS) | Level 2 Oversight |
| Storm-water Information Management System (SWIM) | Level 2 Oversight |
| Tolling & Statewide Tolling Customer Service Center | Level 2 Oversight |
| Ferries Regional Fair Coordination System (RFCS) with Smartcard | Level 2 Oversight |
| Ferries Vehicle Reservation System<br>- Scheduled to present to ISB on 7/8/2010<br>- No Annual Review until Project Manager is assigned in late July 2010 and work begins. | Level 3 Oversight |

| PROJECT:  Washington Transportation Framework for GIS (WA-Trans) | | | |
|---|---|---|---|
| **OVERSIGHT LEVEL >** | ☐ Level 3 | ☒ Level 2 | ☐ Level 1 |

| **Executive Sponsor**<br>**Amy Arnis,** Assistant Secretary<br>**Strategic Planning & Finance**<br><br>Brian Smith, Director<br>Strategic Planning Division | **IT Project Manager**<br>Michael Leierer |
|---|---|
| **Business Area Manager**<br>Mark Finch, Customer Manager<br>GIS and Roadway Data Office | **Consultant/Contracting Firm**<br>Safe Software, JBS International (Bob Grabhorn) |

## PROJECT DESCRIPTION

| **TYPE OF PROJECT >** | ☐ System Development | | ☐ RFP | ☒ Feasibility Study | ☐ Other |
|---|---|---|---|---|---|
| **Project Start Date:** | 12/16/2008 | | **Current Baseline Scheduled Completion Date:** | | 12/30/2010 |

*Note: Projects which have a DIS Investment Plan, the Start and End dates should equate to dates specified in the Investment Pan.*

WA-Trans will be a GIS database containing transportation data about roads, railroads, ferries, aviation, ports and non-motorized transportation infrastructure using data from local governments, tribes, state and federal agencies. It is being developed collaboratively with a multi-jurisdictional partnership and incrementally in pieces of limited size and scope.  The project has completed the pilots and has begun a phased implementation.  The phases are funding dependant.  Two separate efforts are underway right now.

The first is called the Seven-County Implementation.  This includes the creation of a dataset containing data from Clark, King, Kitsap, Pierce, Spokane, Snohomish and Thurston Counties.   Additional funding is also provided to implement Cowlitz, Lewis and Whatcom counties.  This implementation includes making the Data Provider Portal production ready and developing software processes to support long-term maintenance.

The second effort is the development of an Eastern Regional Dataset Implementation.  This will include Spokane County (an active partner), Pend Orielle, Adams, Ferry, Lincoln, Stevens Counties Once this effort is complete there will be 16 counties in WA-Trans including all but one county in the I-5 corridor and 70% of the software planned for long-term maintenance of WA-Tran will be implemented.

| Business Need | | | | |
|---|---|---|---|---|
| *BUSINESS DRIVERS >* | ☐ Legislative | ☒ Audit Finding | ☒ Business Opportunity | ☐ Other |

There are several business drivers including supporting FHWA 2010 and 2011 HPMS/FC reporting requirements, H&LP fatal and disabling collision analysis for distribution of safety funds to local governments.  WA-Trans is on the Washington Traffic State Traffic Records Strategic Plan and was a recommendation of a NHTSA evaluation of Washington Traffic Records Process.

The WA-Trans Project has significant benefits statewide.  Specifically in WSDOT the following areas will benefit as described:
- Time and cost are reduced to gather data for project scoping and planning,
- Greater efficiencies by the TDO in managing the HPMS and Functional Class processes and reporting to FHWA,
- Facilitate and provide greater efficiencies in development of the Freight and Goods System,
- Provide critical base data for the TDO to more accurately locate collisions. Provide a base map to be used in the TDO incident locator tool.  The 7 counties targets in a current implementation are included because 72% of the fatal and disabling collisions occur on the roads in these counties combined.  This dataset will be used as the transportation base-map for the update of the TDO CLAS Systems Incident Location Tool and later for law enforcement statewide.
- Support regional transportation planning, and related partnerships.
- Support future improvements to the Travel Options Application.
- Support WSDOT role in the State Emergency Management Plan for developing alternative routes into and out of an incident.

There are other benefits still being documented.  Additionally there are significant benefits to other partners of WSDOT including MPOs and RTPOs, local governments.

**Goal – Provide support for the WSDOT Strategic Plan**
Based on the WSDOT Strategic Plan WA-Trans will provide support of  increasing travel safety (P1.2) as a result of more accurate collision location, a better identification of collision locations and is possible which could result in better decisions or recommendations regarding safety mitigations.

Additionally WA-Trans will support efforts to improve the safety and security of transportation customers and system (T II) in that support for routing of traffic into and out of emergency areas enhances public safety.

| PROJECT BUDGET | | |
|---|---|---|
| **Funding Source(s)** | **Funding Source Specifics** | |
| ☒ Program Funds | *Subprogram(s)*:  T | $   398,853 |
| ☐ Legislative Funding | *Source ID*: | $ |
| ☒ Federal / Grant Funds | *Source ID*:  Traffic Records(Section 408), US Geological Survey Cooperative Agreement | $   160,000<br>$   100,000 |
| ☒ Other Funding | *Specify*:  Highways and Local Programs (federal funds) | $ 163,758 |
| | TPF Partners: California, Idaho, Nebraska, Ohio, Oregon, Tennessee; WSDOT Research, | $ 125,000 |
| | **Total Project Funding:** | **$ 947,611** |

| PROJECT: **Washington Transportation Framework for GIS (WA-Trans)** |
| --- |
| **Report Submitted by:** *Michael Leierer, GIS/IT Project Manager* |

| **Current Status** *(compared to Current Baseline)* | **SCOPE** | **SCHEDULE** | **BUDGET** |
| --- | --- | --- | --- |
| | **= Green** | **=Yellow** | **= Green** |

| **Status Summary**<br><br>**For 7-County and Eastern Regional Dataset Implementations** | WSU is taking a bit longer to come up to speed than expected. Part of this is due to their efforts to improve the integration processes leading to further automation. We have been working daily with WSU to mitigate the competing deliverables of software research and data delivery.  We believe that the long term effect of this effort will be to substantially speed up processing and place WA-Trans ahead of schedule.  The results of the automated processes we have to date implemented support this opinion. Spokane GIS is using these processes to great effect.<br><br>• We have data from all counties we are supposed to get it from. There are other counties asking to contribute.<br>• Post-processing for 6 of the 7 counties in the 7-County Implementation is completed.<br>• WSU is working on Snohomish County, the last county needed for the 7- County Implementation.<br>• Spokane County GIS is working on Adams and Lincoln Counties, part of the Eastern Regional Dataset Implementation.<br>• Changing universities from CWU to WSU, due to the contracting difficulties with CWU, have delayed us by at least 2 months.<br>• We are adding current Census data for counties not included in current projects in order to make WA-Trans a Statewide dataset. No schedule or budget changes are expected with this effort.<br>• HPMS 2010 reporting data has been uploaded to WA-Trans in preparation for any additional federal reporting needs and in preparation for development of reporting data for the additional 2011 Federal reporting requirements. |
| --- | --- |

## SCOPE

### This Reporting Period's Progress

In terms of software we are pursuing software and geospatial processes in support of:
• Pre-Processing QA/QC (100%)
• Data Change Detection, (100%)
• Promotion of Changed Data for editing, (100%)
• Develop Topology Checking/Editing Processes, (50%)
• Data Quality Reports for Providers (98%)
• Post-processing QA/QC, (70%)
• Managing different versions of the same data from different providers. (85%)
• Develop Metadata Management Products (critical concern to all parties including WSDOT), (30%) We are partnering with OIT IRM about how to populate the data catalog with the metadata we are collecting and developing.
• We are working on handling of address "points" (a new and growing way of storing address information in GIS Systems).
• We have WSU and Spokane County GIS using an ESRI SDE MS SQL Express Geodatabase so

| SCOPE |
|---|

the structure will be very similar to our WSDOT SDE database configuration making exchanging data with them easier.

We continue to process data with the universities and Spokane County as before.  The process involves three distinct phases.  They are:

Pre-processing:  Translation into WA-Trans, quality assurance and quality control of data, internal data connectivity and completeness review, change detection and change management, reports given back to the data provider and data submitted to WA-Trans Editing environment.  We continue the tasks to further automate these processes.

Integration Processing:  Analysis of which data provider will be used for which business purposes, connecting between data providers within a single jurisdiction, connecting between data providers between jurisdictions, and applying information and measures about the data consistently across all data for one piece of transportation infrastructure.  This period has been spent on automation processes to help speed this process and reduce errors.  The Multiple LRS is becoming a reality at WSDOT for the first time.  This is a dream of all DOT's nationwide and WA-Trans is getting closer to realizing this dream. The Multiple LRS data is still in a development database. Promotion to production is close.

Post-processing:  Quality assurance and quality control of all data across jurisdictions, documentation of metadata about processing performed, loading data into the WA-Trans User Database.  This is going to be both automated and guided manual processing as some automated processes are under development.

We have used this approach successfully for several Counties and it is working well.

| *This Reporting Period's Issues / Risks and Mitigation Strategies* |
|---|

WSU is taking a bit longer to come up to speed than expected. Part of this is due to their efforts to improve the integration processes leading to further automation. We have been working daily with WSU to mitigate the competing deliverables of software research and data delivery.  We believe that the long term effect of this effort will be to substantially speed up processing and place WA-Trans ahead of schedule.  The results of the automated processes we have to date implemented support this opinion. Spokane GIS is using these processes to great effect.

There is a question within WSDOT as to whether WA-Trans will continue as a project or become a WSDOT program.  Due to a lack of a decision at this time FTE resources that could be available to WA-Trans are on hold as are some data efforts within WA-Trans scope (e.g. 2011 HPMS reporting requirements).  Current funding for WA-Trans will be completely expended by March 2011.  Current funding for WA-Trans data work will expire by December 2010 and any further WA-Trans work will be focused on software deliverables consistent with the requirements of the remaining funds.

| **Change Control Decisions** |
|---|
|  |

| **Objectives for next Reporting Period** |
|---|

1) Finish development of transformation processes for Ferry, Stevens and Pend Oreille Counties.  2) WSU finishes work on Snohomish County. 3) Spokane County GIS finishes work on Adams, Ferry, and Lincoln Counties.  4) Move 7-County Implementation data to production. 5) Continue to work on Topology Handling Processes. 6) Finish Implementation of metadata additions in the database and metadata process design. 7) Create dataset for Puget Sound Regional Council (PSRC). 8) Finish data update process for new current dataset submissions from existing data providers.

| SCHEDULE |
|---|

| PROJECT LIFECYCLE > | ☐ Initiation | ☐ Planning | ☐ Execution | ☒ Implementation | ☐ Closure |
|---|---|---|---|---|---|

| ◆ Major Milestones Current Baseline | Schedule | | | Milestone Outlook |
|---|---|---|---|---|
|  | Original Baseline | Current Baseline | Attained | |
| Project Start Date | 11/15/2009 | 12/15/2009 | 12/15/2009 | Delayed to funding issues |
| Contracts with Spokane County, WSU, USGS, WTSC | 11/1/2009 | 3/15/2009 | 4/30/2010 | Spokane County was delayed. |

## SCOPE

| | | | | |
|---|---|---|---|---|
| Collecting Data (all but Whatcom & Lewis) | 10/15/2009 | 1/20/2010 | 1/20/2010 | We have Adams, Clark, Ferry, King, Kitsap, Lincoln, Pend Oreille, Pierce, Snohomish, Spokane, Stevens and Thurston and WSDOT. |
| Data in WA-Trans Loading DB | 12/15/2009 | 5/15/2010 | 5/20/2010 | We have Adams, Clark, King, Kitsap, Lincoln, Pierce, Spokane, Thurston, Snohomish, Ferry, Stevens, Pend Oreille, Walla Walla, Benton Franklin, WSDOT 24K LRS, HPMS 2010 data. |
| Data in WA-Trans Staging DB | 3/15/2010 | 6/15/2010 | 6/30/2010 | Adams, Clark, King, Kitsap, Lincoln, Pierce, Spokane, Thurston, Snohomish, Ferry, Stevens, Pend Oreille, Walla Walla, Benton Franklin, WSDOT 24K LRS, HPMS 2010 data. |
| Data in WA-Trans User DB | 6/15/2010 | 8/15/2010 | | We have Clark, King, Kitsap, Pierce, and Thurston. |
| Change Detection, Change Management, | 3/31/2010 | 6/15/2010 | 6/15/2010 | Change detection 100% complete, Change management (100%), |
| Integration Software and Processes | 3/31/2010 | 10/15/2010 | | Integration (50%) |
| New hardware implementation | 12/31/2009 | 4/23/2010 | 6/30/2010 | All is purchased, new Database Server implemented. Waiting on Internet/Business Server implementation. |
| Data Provider Portal Production Ready | 1/31/2010 | 9/30/2010 | | We have moved this back as we wait to get our environment purchased and set up. |
| Project Completion Date | 6/30/2010 | 12/30/2010 | | 7/30/2010 for Seven County; 8/30/2010 for Eastern Region. |

## BUDGET

| Project Budget Breakdown *Item Description* | Original Baseline Budget Plan | Current Baseline Budget Plan | Actual Expenditures To Date | Projected Amount to Complete | Variance |
|---|---|---|---|---|---|
| **Labor** | 441,584 | 440,175 | 339,194 | **100,981** | 0 |
| **Hardware Purchase & Maintenance** | 30,000 | 10,000 | **8,979** | **1,021** | 0 |
| **Software Purchase & Maintenance** | 57,470 | 36,470 | **21,478** | **14,992** | 0 |
| **Contracted Services** | 201,151 | 227,056 | 195,911 | 31,145 | 0 |
| **Data (in-Kind, WSU, Travel)** | 216,980 | 233,471 | 176,835 | 56,536 | 0 |
| *Totals >* | $947,185 | $947,172 | $742,397 | $204,775 | $0 |

**Budget Plan vs. Actual Expenditures**
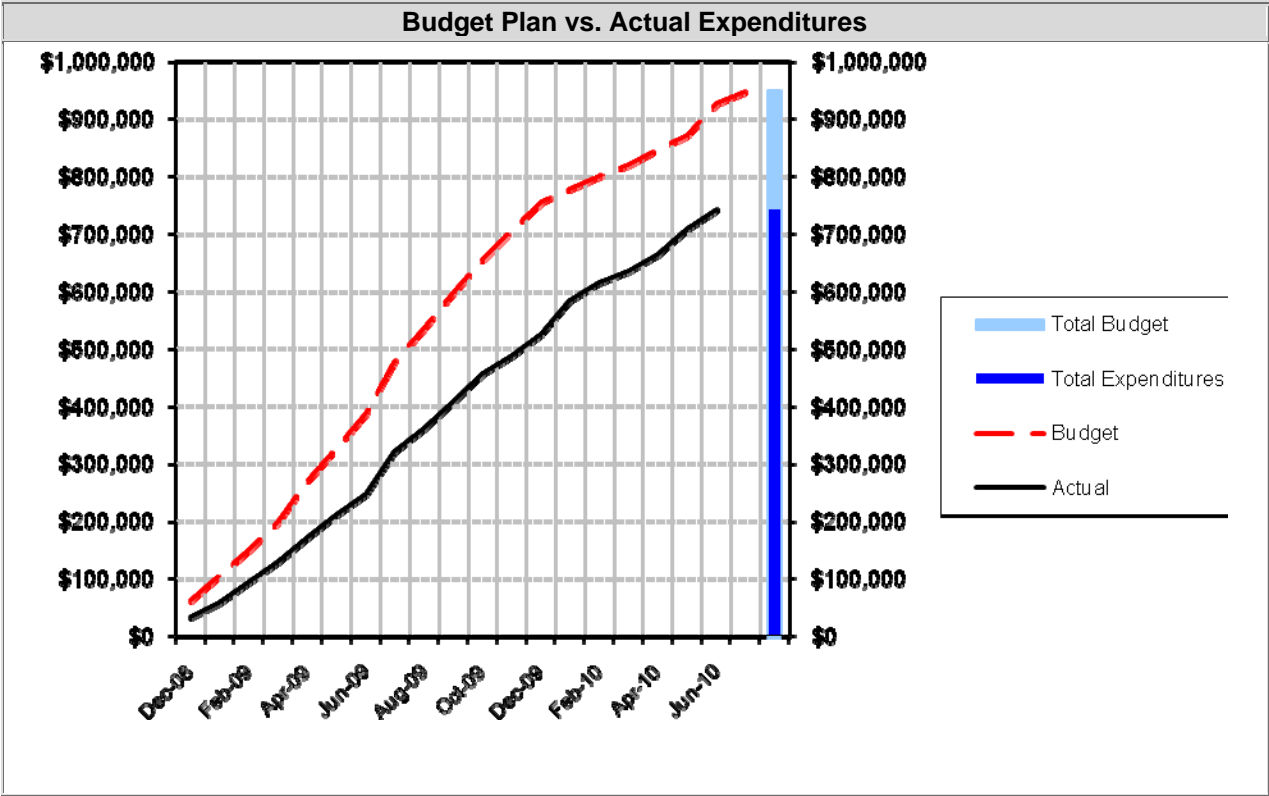
| PROJECT: | WSF Dispatch System Project (WINDS) | | |
|---|---|---|---|
| **OVERSIGHT LEVEL >** | ☐ Level 3 | ☒ Level 2 | ☐ Level 1 |

| **Executive Sponsor**<br>David Moseley, Assistant Secretary<br>Ferries Division | **IT Project Manager**<br>Kate Kruller<br>WINDS Project Manager |
|---|---|
| **Business Area Manager**<br>Steve Rodgers, Director<br>Operations, Ferries Division | **Consultant/Contracting Firm**<br>Quintiq, Inc. |

## PROJECT DESCRIPTION

| **TYPE OF PROJECT >** | ☒ System Development | ☐ RFP | ☐ Feasibility Study | ☐ Other |
|---|---|---|---|---|

| **Project Start Date:** | 07/01/2007 | **Scheduled Completion Date:** | 9/30/2010 |
|---|---|---|---|

*Note: Projects which have a DIS Investment Plan, the Start and End dates should equate to dates specified in the Investment Pan.*

Replace the existing dispatch system module with a new vessel and terminal workforce resource planning/scheduling application.

The reasons for the replacement are:
- Improve dispatch process and controls
- Ensure regulatory compliance capabilities
- Provide full Engine Room Crew and Terminal Employee dispatch capability in addition to Deck Crew dispatch
- Incorporate business efficiencies
- Replace old/outmoded technology
- Provide a system that is compatible with new WSDOT systems and WSDOT Service-Oriented Architecture (SOA) design principles

## Business Need

| **BUSINESS DRIVERS >** | ☒ Legislative | ☐ Audit Finding | ☐ Business Opportunity | ☐ Other |
|---|---|---|---|---|

**The project will serve the agency and departmental goals of:**

**Risk Mitigation**
- Automated and full compliance with US Coast Guard policy and regulations regarding vessel and terminal staff assignments
- Automated and full compliance with multiple and term-based Union Collective Bargaining Agreements regarding vessel and terminal staff assignments
- Automated and full compliance with any Federal or State privacy laws and regulations related to Employee Information
- Maximum compliance with Payroll industry standards and implemented good-faith Best Payroll Practices
- Efficient, accurate and effective dispatch issues resolution

**Standardization**
- Aligns resources and technology to optimize all operations dispatch performance
- Reliable methods using a stable platform to ensure dispatch process consistency and standardization
- Provides governance through leading-edge security, limits of authorities, controlled inquiry and update access to data, reporting and system controls.

**Business Need**

| BUSINESS DRIVERS > | ☒ **Legislative** | ☐ **Audit Finding** | ☐ **Business Opportunity** | ☐ **Other** |
|---|---|---|---|---|

> Clearly defines and identifies process ownership
> Eliminates redundant transaction and processing work – providing greater efficiency
> - Reduces manual calculation, error/omission and rework.

Achieving improved performance in workforce planning and scheduling in the above categories will also create an environment for reducing overtime, reducing short notice/shift change premiums, strategic use of temporary or seasonal workers and maximizing employee utilization.

## PROJECT BUDGET

| Funding Source(s) | Funding Source Specifics | |
|---|---|---|
| ☒ Program Funds | *Subprogram(s)*: Program W | $ 275,000 |
| ☒ Legislative Funding | *Source ID:* | $ 276,639 |
| ☒ Federal / Grant Funds | *Source ID*: WA-03-0176<br>WA-05-0049 | $1,106,559 |
| ☐ Other Funding | *Specify*: | |
| | **Total Project Funding:** | **$1,658,199** |

# Project Status Report
Reporting Period: 4/1/2010 thru 6/30/2010

| *PROJECT:* **WSF Dispatch System Project (WINDS)** |
|---|
| **Report Submitted by:** Kate Kruller, WINDS Project Manager |

| **Current Status**<br>*(compared to Current Baseline)* | **SCOPE** | **SCHEDULE** | **BUDGET** |
|---|---|---|---|
| | = Green | = Green | = Green |
| **Status Summary** | The project status is Green regarding Scope, Schedule and Budget. The Washington State Integrated Dispatch System (WINDS) Project Implementation Parallel Test Phase is underway.<br><br>This quarter's activities include:<br><br>**Planned Activity:**<br><br>▪ Continue contracted activities with the Quintiq, Inc. on the WINDS system. Follow plan and schedule provided in the Contract (Vendor Statement of Work).<br>▪ Complete iterative configuration as a result of Usability Reviews in Terminals, Deck and Engine Room Work Units<br>▪ Test system Interfaces<br>▪ Continue Test Plan implementation<br>▪ Develop technical documentation and training materials<br>▪ Produce system reports<br>▪ Continue Quality Assurance Professional project assessments/recommendations |

## SCOPE

**This Reporting Period's Progress**

## SCOPE

### This Reporting Period's Progress

The project status is green in scope, schedule and budget at report deadline.

- The project deployment plan has been adjusted and is authorized by DIS to meet Q3 2010 deadlines. Reason for the schedule change: Strategic resource allocation and right-time deployment for a smooth transition to WINDS in Deck/Engine Room. An updated contact matches the approved IAR and is in circulation for signatures.

- Project Activity: The Washington State Ferries Integrated Dispatch System (WINDS) Project, which will replace the aging ADSS dispatch system at Ferries, passed a milestone on Sunday, July 18, when it was deployed to production for vessel staffing to run in parallel with the old system. In March, 2010, WINDS was put in production for Terminals only, where it replaced a manual system. WSF Operations Deck/Engine Room Dispatch staff is now using both systems during their regular business day to become familiar with new WINDS routines; ADSS remains the system of record.

  Dispatch activity that cannot be entered by the dispatch staff in parallel is "swept up" by Ferries IT data synchronization routines so that both systems reflect the same state of affairs. This parallel phase will remain in effect for approximately four weeks so that all functions of the system, including seasonal changes, schedule re-assignments, and re-bidding of jobs can be tested and compared for accuracy using "live" data. Automated algorithms that advise dispatchers on the "most suitable" staff to be assigned to jobs will be fully vetted and inspected for accuracy and appropriateness. Forty-Two Terminal Supervisors, along with the Terminals Management team, continue to use the WINDS live. WINDS provide Terminals with the ability to make and track work assignments for 300-400 employees working at 14 terminals throughout the year. When Vessel Dispatching is onboard, up to 1400 employee work assignments will be managed by WINDS.

- **Bid Administration Deployment Schedule:**
  September 21-28: Bid Algorithm data entry (Deck and Terminals – Sept. Fall Schedule compare)
  November 16-20: Produce Mandatory Bid Letters/Begin Winter Season Bid Process
  December 7- February 17 Check qualifications
  December 7- February 17 Check qualifications
  July 26 – August 5: Bid Algorithm test /compare with Operations manual process
  August 6 – September 10: Rework and Retest Bid Algorithm as needed

  **Deck and Engine Room Dispatch Deployment Schedule:**
  November: 20, 24; December 4,11,18,23; January 8,15,22,29; February 5,12,19, 26; March 5, 12,19, 26, April 2,9,16, 23, 30; May 7: Change Management Reviews
  December 4: Training delivers final business process definition of Training Information Functions
  December 7-11: Finalize Deck Dispatch Views/Usability review
  December 7-11: Training Information specifications / Employee Information screen finalized – implement
  December 14-18: Finalize Deck Dispatch Views/Usability review Deck/Engine Room Dispatch Coordinator
  December 14-18: Training Information Usability Review/Employee Information screen Review – daily test/update
  December 21 – February 19: Rework and Retest Deck/Engine Room as needed
  February 8-23: Integration testing
  February 25-June 1: System Testing
  June 2- July 16: WINDS Version 1.1 Deploy to QA and Training Servers
  July 14-August 4: Deck/Engine Room/Watch Supervisor Training Sessions + OJT
  July 14-August 14: Operations Dispatch uses ADSS and WINDS concurrently (Go-Live with success)
  August 15 + 27: Deck/Engine Room Dispatch Go-Live (for the week Aug 15-24)

**This Reporting Period's Issues / Risks and Mitigation Strategies**

Primarily, resource allocation and right-timing for deployment. / Senior Management on all sides are communicating daily and have oversight on optimal project team and user community capacity, as well as key trigger points in the Deck and Engine Room Dispatch work cycles for a launch.

**Change Control Decisions**

Implemented a Stakeholder Usability Review to evaluate overall workflow efficiency, streamline processes, establish default standardized business processes and ensure best system performance.

Strategic deployment process decisions with stakeholders caused the schedule to slide where implementation occurs during the Q3 2010.

During the WINDS Project Implementation and Parallel Test Phase, a Configuration Management process was established.

**Objectives for next Reporting Period**

System deployment is underway. Terminals are live (in production). WSF Operations Deck and Engine dispatch is using WINDS in production as part of the last stage of parallel test – with a launch projected for the week of August 15, 2010

Next quarter's activities include:

- WINDS deployment as the complete Dispatch tool used by Deck, Engine Room and Terminals with the WINDS 1.1 release
- Final system rollout
- Complete Acceptance process
- Finalize and submit the required FTA Report at project close. (anticipated in Q3 2010)

## SCHEDULE

| PROJECT LIFECYCLE > | ☐ Initiation | ☐ Planning | ☒ Execution | ☐ Implementation | ☐ Closure |
|---|---|---|---|---|---|

| ◆ Major Milestones Current Baseline | Schedule | | | Milestone Outlook |
|---|---|---|---|---|
| | Original Baseline | Current Baseline | Attained | |
| Project Start Date | **01/16/2007** | | **01/30/2008** | Delayed. Rescheduled and completed as planned |
| Project Charter | 01/15/2008 | | 05/15/2008 | Delayed. Rescheduled and completed as planned |
| Requirements/ RFP Complete | 4/31/2008 | | 6/09/2008 | Delayed. Rescheduled and completed as planned |
| RFP Release | 05/30/2008 | | 06/10/2008 | Delayed. Rescheduled and completed as planned |
| Evaluation/Award | 08/13/2008 | 11/19/2008 | | Schedule completed on time initially 08/13/2008. Additional proposal evaluation requirement of BAFOs from vendors finalists as stated in the RFP Procurement Schedule Amendment 5 |
| Contract Start | 09/12/2008 | Contract | 12/31/2008 | Date of Execution December 5, 2008 |

| | | says 12/16/2008 | | (Contract Signed). Contract Start Date on Contract December 16, 2008. Contract Start on December 31, 2008 |
|---|---|---|---|---|
| Business Analysis & Detailed Requirements Document | 02/15/2009 | | 02/13/2009 | Complete |
| Customization/Development | 05/30/2009 | | 03/24/2010 | Complete |
| Testing Complete | 06/05/2009 | | 06/04/2010 | Complete |
| Acceptance Period Start (30 days) | 06/22/2009 | 07/28/2010 | | |
| Production Roll out/ | 06/22/2009 | 08/25/2010 | | |
| Project Completion Date | **07/31/2009** | 09/30/2010 | | |

## Project Budget

| Project Budget Breakdown<br>*Item Description* | Original Baseline Budget Plan | Current Baseline Budget Plan | Actual Expenditures To Date | Projected Amount to Complete | Variance<br>Plan - Expenditures<br>- Projected = Variance |
|---|---|---|---|---|---|
| System Vendor Procurement & Project Implementation | 155,000 | 155,000 | 155,000 | 0 | 0 |
| Network Hardware | 19,500 | 12,188 | 12,188 | 0 | 0 |
| Application Software Licensing and Implementation | 735,100 | 1,045,000 | 1,045,000 | 0 | 0 |
| Customization/Development | 290,000 | 299,000 | 162,740 | 136,260 | 0 |
| System Specialist | 6,200 | 3,852 | 3,852 | 0 | 0 |
| WINDS System Test | 140,200 | 105,959 | 105,959 | 0 | 0 |
| Escrow | 1,000 | 1,000 | 0 | 1,000 | 0 |
| Contingency | 36,199 | 36,199 | 36,199 | 0 | 0 |
| Totals > | $1,383,199 | $1,658,199 | $1,520,939 | $137,260 | $0 |
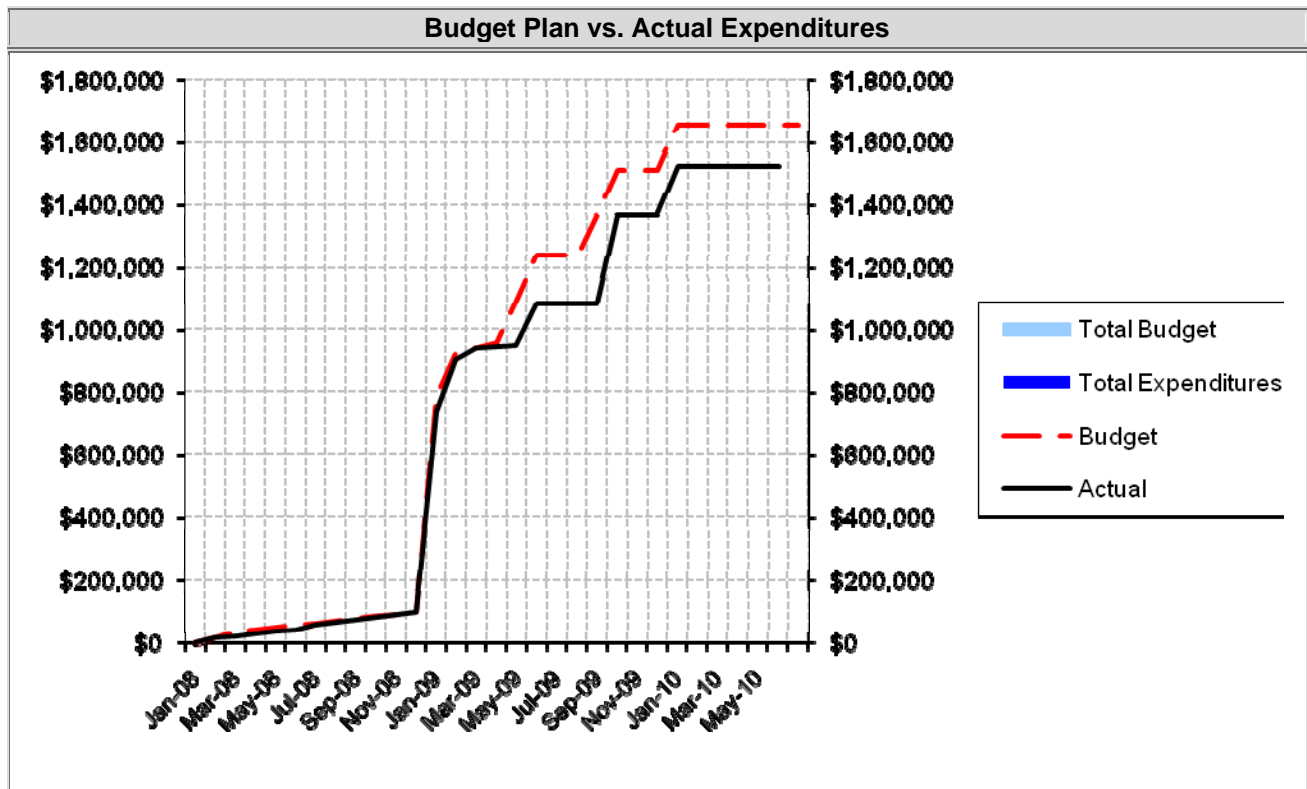


**Note**: $300,000 of budget reallocated beyond June 30, 2009 by the legislature. Budget increase request with Investment Plan Amendment and Contract Amendment authorized by DIS and OFM.

| PROJECT: **StormWater Information Management System (SWIM)** | | | |
|---|---|---|---|
| **OVERSIGHT LEVEL >** | ☐ **Level 3** | ☒ **Level 2** | ☐ **Level 1** |

| **Executive Sponsor**<br>Jerry Lenzi, Assistant Secretary<br>Engineering and Regional Operations<br><br>Megan White, Director<br>Environmental Services Office | **IT Project Manager**<br>Maribeth Sapinoso, OIT Project Management Office |
|---|---|
| **Business Area Manager**<br>Dick Gersib and Elizabeth Lanzer<br>Environmental Services Office | **Consultant/Contracting Firm**<br>Brewing Consulting Services |

## PROJECT DESCRIPTION

| TYPE OF PROJECT > | ☒ **System Development** | ☐ **RFP** | ☐ **Feasibility Study** | ☐ **Other** |
|---|---|---|---|---|
| **Project Start Date:** | 07/01/2008 | **Current Baseline Scheduled Completion Date:** | 09/1/2011 | |

*Note: Projects which have a DIS Investment Plan, the Start and End dates should equate to dates specified in the Investment Pan.*

This project is one component of the Stormwater Management Program (SWMP). The primary business driver is to demonstrate and satisfy requirements for compliance with the WSDOT National Pollutant Discharge Elimination System Stormwater Permit (NPDES) Municipal Stormwater Permit. This stormwater permit was issued by the Department of Ecology on February 4, 2009 and modified on May 5, 2010. WSDOT's compliance with the permit will support clean water in Washington; salmon recovery efforts; and the quality of Puget Sound.

## Business Need

| BUSINESS DRIVERS > | ☒ **Legislative** | ☐ **Audit Finding** | ☐ **Business Opportunity** | ☐ **Other** |
|---|---|---|---|---|

Environmental Services, without a SWIM system is (unable to or has been):

- Unable to meet requirements of WSDOT NPDES Municipal Stormwater Permit.

- Unable to meet Stormwater Management Program - Key Performance Indicators.

- Unable to store and manage information related to a comprehensive stormwater features inventory reguired in the NPDES Municipal Stormwater Permit. We will need to conduct a quality inventory assessment of the Stormwater Drainage System Inventory, (approximately 20,000+ outfalls), within the Phase 1 and Phase 2 designated areas.

- Unable to store and manage information related to the mapping of stormwater connections to other municipal stormwater systems. WSDOT has connections many municipal stormwater systems and the data and metadata needs to be consolidated and aligned. We will also need to decommission the systems we will no longer be using in the WSDOT environment.

- Alignment of technical systems and repository data, with Maintenance and Operation's existing field process and procedures as related to the inspection and maintenance of stormwater treatment systems.

- Unable to cost effectively manage the identification and resolution of illicit discharges and illegal connections to WSDOT stormater conveyance system.

- Lack of overall quality control

**Business Need**

| BUSINESS DRIVERS > | ☒ Legislative | ☐ Audit Finding | ☐ Business Opportunity | ☐ Other |
|---|---|---|---|---|

- Unable to evaluate performance of stormwater treatment Best Management Practices (BMPs)

- Provide the stormwater program with needed tools and resources to effectively manage and maintain required information, systems, data, and consultant contracts.

- Provide Maintenance & Operations with the resources needed to achieve regulatory compliance and ensure continued program capability to maintain highway system assets and meet Maintenance Accountability Process (MAP) service level targets for catch basins and stormwater treatment and flow control facilities.

- Contribute to managing WSDOT's environmental commitments articulated in the September 2001 Environmental Policy Statement that calls for protecting and preserving "natural resources and other environmental assets and its citizens' health and safety" and to "comply with all environmental laws and regulations applicable to our business and activities".

## PROJECT BUDGET

| Funding Source(s) | | Funding Source Specifics | |
|---|---|---|---|
| ☐ | Program Funds | *Subprogram(s)*: | $ |
| ☒ | Legislative Funding | *Source ID*: | FY2009 - $833,000<br>2009-11 Bien - $484,153 |
| ☐ | Federal / Grant Funds | *Source ID*: | $ |
| ☐ | Other Funding | *Specify*: | $ |
| | | **Total Project Funding:** | **$1,317,153** |

# Project Status Report
For reporting period 4/1/2010 through 6/30/2010

| PROJECT: **StormWater Information Management System (SWIM)** |
|---|

**Report Submitted by:** *Maribeth Sapinoso, OIT Project Manager*

| **Current Status**<br>*(compared to Current Baseline)* | SCOPE | SCHEDULE | BUDGET |
|---|---|---|---|
| | **+ Green** | **+ Yellow** | **=Green** |
| **Status Summary** | The project schedule is yellow due to the change in the Project Manager, business staff not available for testing and additional requirements which have been added from outside of WSDOT.<br><br>The following components of the SWIM system have been reprioritized by the business as:<br><br>Construction Water Quality Monitoring (CWQM)<br>Stormwater Feature Inventory Database (SFID)<br>Stormwater Monitoring (Equis and Aquarius)<br>Illicit Discharge Detention and Elimination (IDDE)<br><br>Maribeth Sapinoso became new Project Manager for SWIM effective, May 16, 2010 replacing Terri Ise, who transferred to a position at WSF.<br><br>The following components of the SWIM system have been delivered:<br>• CWQM bug fixes identified since last QPR | | |

| | • CWQM performance enhancements to lessen response time to data input<br>• Discharge Monitoring Report (DMR) workaround requirements and prototype for CWQM<br>• Unit testing of CWQM application<br>• CWQM user interface design documentation<br>• Final review of Stormwater Features Inventory requirements<br>• Commercial off the Shelf (COTS) vendor demonstrations for Stormwater Monitoring<br>• Preparation of EQUIS (COTS) software on production and FTP servers<br>• IDDE business requirements<br>• IDDE conceptual and logical data model<br>• Project schedule revised for all of SWIM components |
|---|---|

## SCOPE

This **Reporting Period's** Progress

- Prepare test and deployment scripts for CWQM deployment
- Build Stormwater Feature Inventory (SFID) database
- Create list of questions and tasks for vendor to address for Stormwater Features Inventory
- Prepare decision matrix for SWIM Executive Steering Committee to determine if Aquarius or StreamTrac is the appropriate COTS software for Stormwater Monitoring
- Final review of IDDE Use Cases and Test Cases
- Create IDDE physical data model
- 1 FTE dedicated 100% to SWIM
- 1 contractor dedicated 100% to SWIM

### This Reporting Period's Issues / Risks and Mitigation Strategies

1. **Transition of major project responsibilities to new resources.**
2. **CWQM deployment to production pushed back to mid October due to the rewrite of some business requirements and use cases written over two years ago that lacked detailed information for clear test cases.**
3. **Stormwater monitoring team temporarily suspended the purchase acquisition of the DCS Toolkit that will perform the telemetry data downloading with the support of the Aquarius software. (WSDOT purchased Aquarius early in 2009.) SWIM technical and business team are re-evaluating Aquarius equivalent software called StreamTrac (from both a functionality and cost effectiveness standpoint) to determine if this software should be used instead of Aquarius and the DCS Toolkit. The SWIM Executive Steering Committee will be making the decision between the two COTS software based on impact to project schedule and resources.**

### Change Control Decisions

### Objectives for next Reporting Period

- Deploy CWM to production
- Begin review of date update processes, field mapping vs. office mapping methodologies for Stormwater Features Inventory
- Configure and test COTS system in the OIT QA environment to support Stormwater monitoring
- Begin development of IDDE

Schedule was completely re-factored in June by Maribeth Sapinoso to reflect current project structure.

## SCHEDULE

| PROJECT LIFECYCLE > | ☐ Initiation | ☐ Planning | ☒ Execution | ☒ Implementation | ☐ Closure |
|---|---|---|---|---|---|

| ◆ Major Milestones Current Baseline | Schedule | | | Milestone Outlook |
| | Original Baseline | Current Baseline | Attained | |
|---|---|---|---|---|
| **CWQM:** | | | | |
| Fix Application Bugs | 12/14/09 | 6/30/10 | 6/30/10 | Resolved a total of 64 bugs |
| DMR Conversion | | 7/14/10 | 7/2/10 | Workaround reporting to Ecology |
| Project Screen Additions | | 7/30/10 | | |
| Functional/QA Testing and fixes | | 8/13/10 | | |
| Regression Testing & Bug fixes | 1/20/10 | 8/27/10 | | |
| UAT Testing | 2/1/10 | 9/10/10 | | |
| Fix Application Bugs from UAT | | 9/24/10 | | |
| UAT Testing | | 10/8/10 | | |
| Deploy to Production | 2/4/10 | 10/15/10 | | |
| | | | | |
| **StormWater Features Inventory:** | | | | |
| Final Requirements | 7/27/10 | | | |
| Database Design | 7/27/10 | | | |
| Physical Database | 7/6/10 | | | |
| Data Update Processes | 7/20/10 | | | |
| Field Mapping Methods | 9/24/10 | | | |
| Office Mapping Methods | 11/4/10 | | | |
| Provide Data Access | 10/5/10 | | | |
| Deploy to Production | 11/16/10 | | | |
| | | | | |
| **Stormwater Monitoring (COTS)** | | | | |
| Deploy EQuIS on PROD servers & FTP | 8/1/10 | | | |
| Acquire DCS Toolkit | 8/1/10 | | | |
| Configure and Test Aquarius | 8/15/10 | | | |
| Configure and Test DCS Toolkit | 8/15/10 | | | |
| Test Field Equipment Data Transfer | 8/20/10 | | | |
| Deploy Aquarius Database on Production | 9/1/10 | | | |
| Finalize EDD | 9/30/10 | | | |
| Begin Monitoring at SR 518 | 10/1/10 | | | |
| Begin Monitoring 1-5 Modified VFS Study (14 sampling locations at 2 sub-sites) | 10/1/10 | | | |
| Begin Monitoring Field Program Implementation (31 sampling locations at 14 sites) | | | | |
| Begin Permit Reportable Monitoring at All Sites | 9/1/11 | | | |
| | | | | |
| **IDDE:** | | | | |
| Requirements review & update | 3/8/10 | 4/28/10 | 5/24/10 | |

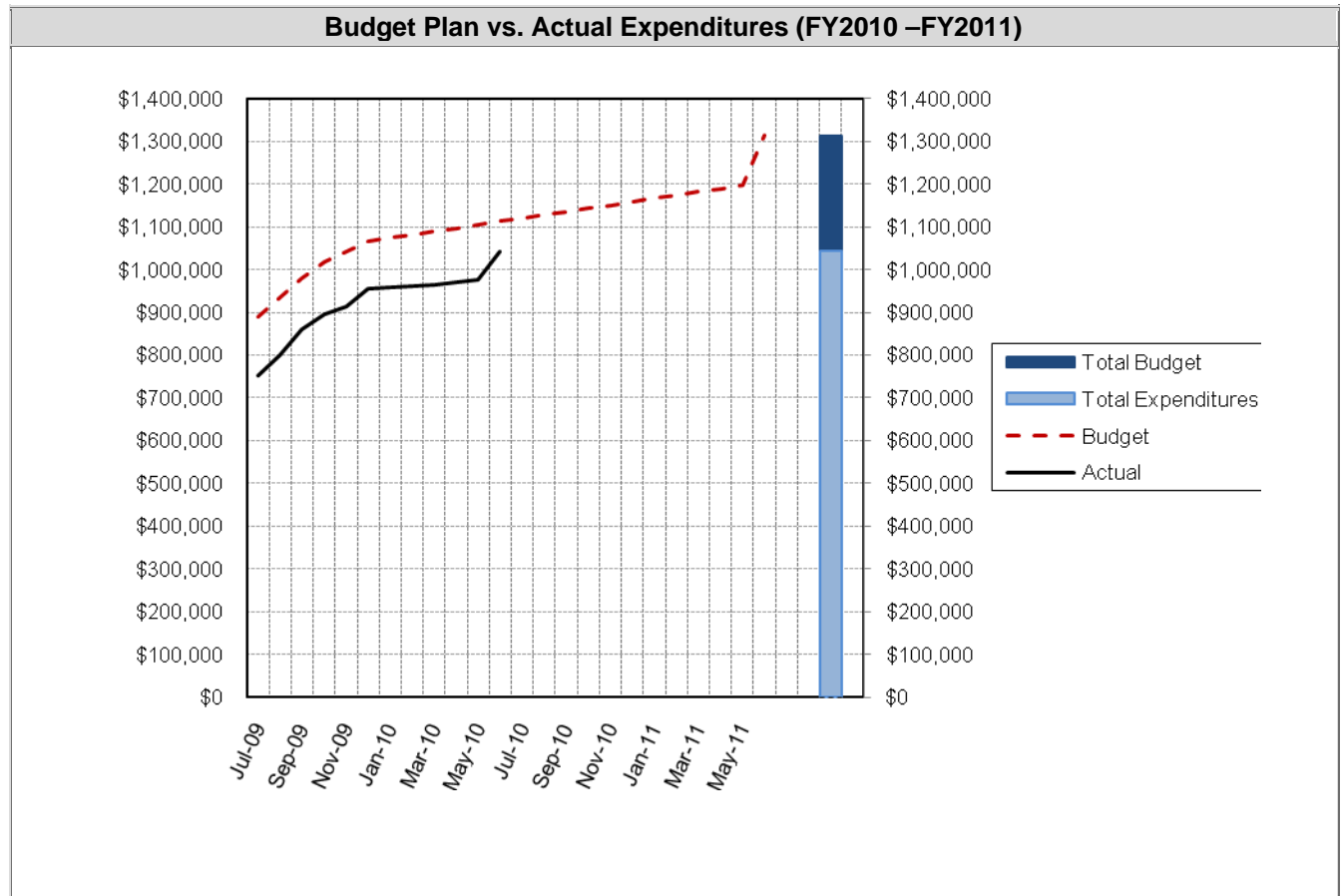| | | | | |
|---|---|---|---|---|
| w/ Client | | | | |
| Requirements and Use Cases Accepted and Approved by Customers | | 6/2/10 | 7/13/10 | Late due to feedback requirements from Regions |
| Database Design | 3/25/10 | 6/30/10 | 6/30/10 | |
| Code Development | 6/30/10 | 9/30/10 | | Delayed until CWQM in UAT |
| Functional / QA Testing | 7/8/10 | 10/15/10 | | |
| Regression Testing and Bug Fixes | | 10/28/10 | | |
| UAT Testing | 7/23/10 | 11/12/10 | | |
| Fix Application Bugs from UAT | | 11/29/10 | | |
| Regression Testing and Bug Fixes | | 12/7/10 | | |
| UAT Testing | | 12/22/10 | | |
| Deploy to Production | 7/28/10 | 12/31/10 | | |
| | | | | |

## BUDGET

| Project Budget Breakdown<br>*Item Description* | Original Baseline Budget Plan | Current Baseline Budget Plan | Actual Expenditures To Date | Projected Amount to Complete | Variance<br>Variance = Plan - Expenditures - Projected |
|---|---|---|---|---|---|
| **FY2009:** | | | | | |
| OIT Labor (FTE) | $137,000 | $74,000 | $61,294 | $0 | **$12,706** |
| OIT Contract Labor | $400,000 | $373,000 | $363,670 | $0 | **$9,330** |
| ESO Contract Labor/Research | $119,000 | $56,000 | $76,751 | $0 | **($20,751)** |
| Software: COTS (Chemistry, Hydrology, ArcGIS) | $324,000 | $300,000 | $210,962 | $0 | **$89,038** |
| Hardware: Server and Storage | $74,000 | $13,500 | $5,534 | $0 | **$7,966** |
| Other Hardware and Software | $79,000 | $16,500 | $13,449 | $0 | **$3,051** |
| **FY2009 Total** | **$1,133,000** | **$833,000** | **$731,660** | **$0** | **$101,340** |
| | | | | | |
| **FY2010 – FY2011:** | | | | | |
| OIT Labor (FTE) | $190,000 | $205,588 | $76,831 | $93,132 | **$35,625** |
| OIT Contract Labor | $186,000 | $165,939 | $199,939 | $0 | **($34,000)** |
| Equipment / Hardware | $8,228 | $8,228 | $0 | $8,228 | **$0** |
| Software License Maintenance: (Chemistry, Hydrology, GIS, Other) | $92,725 | $92,725 | $27,501 | $51,911 | **$13,313** |
| Training | $7,200 | $7,200 | $7,200 | $0 | **0** |
| **FY2010 – FY2011 Total** | **$484,153** | **$479,680** | **$311,471** | **$153,271** | **$14,938*** |
| **Project Total** | **$1,617,153** | **$1,312,680** | **$1,043,131** | **$153,271** | **$116,278** |

*FY2010 – FY2011 Variance is thru 6/30/2010
Project received $372,000 from FY2011 Supplemental Legislative funding which will adjust current baseline budget for FY2011 and will be reflected in the Q3 QPR report.

## Budget Plan vs. Actual Expenditures (FY2010 –FY2011)

| PROJECT: | Tolling Project - Statewide Customer Service Center | | |
|---|---|---|---|
| OVERSIGHT LEVEL > | ☐ Level 3 | ☒ Level 2 | ☐ Level 1 |

| Executive Sponsor<br>David Dye, Chief Operating Officer,<br>Deputy Secretary<br><br>Craig Stone, Director<br>Toll Division<br><br>Bill Ford, Assistant Secretary<br>Administrative Operations | Project Manager<br>Lucinda Broussard, CSC Project Manager<br>Toll Operations<br><br>DIS Oversight<br>Tom Parma, Department of Information Systems |
|---|---|
| Business Area Manager<br>Patty Rubstello, Director<br>Tolling Systems Development & Engineering | Contracting/Consulting Firms<br>Electronic Transaction Consultants (ETC)<br>Jacobs Engineering Group Inc. (Jacobs)<br>PBSJ Corporation (PBSJ)<br>IBI Group (IBI)<br>DHP Project Services (DHP) |

## PROJECT DESCRIPTION

| TYPE OF PROJECT > | ☐ System Development | ☐ RFP | ☐ Feasibility Study | ☒ Other |
|---|---|---|---|---|
| Project Start Date: | 01/11/2010 | Current Baseline Scheduled Completion Date: | | 07/21/2011 |

*Note: Projects which have a DIS Investment Plan, the Start and End dates should equate to dates specified in the Investment Pan.*

Procure a service provider to establish and operate a customer service center / back office for statewide toll collection. Vendor will be responsible for providing *Good To Go!* customer and account services including: customer service storefronts; transponder and photo-based toll processing; customer account management; payment processing; violation processing; associated accounting and financial systems support; and reporting.

## Business Need

| BUSINESS DRIVERS > | ☒ Legislative | ☐ Audit Finding | ☒ Business Opportunity | ☐ Other |
|---|---|---|---|---|

Engrossed Substitute House Bill 2211 authorizes WSDOT to implement early tolling on the SR 520 corridor, to help finance the construction of the replacement SR 520 floating bridge and necessary landings. Current customer service center/back office is not sized to accommodate the large increase in accounts anticipated with tolling SR 520.

## PROJECT BUDGET

| Funding Source(s) | | Funding Source Specifics | |
|---|---|---|---|
| ☐ | Program Funds | *Subprogram(s)*: | $ |
| ☐ | Legislative Funding | *Source ID*: | $ |
| ☒ | Federal / Grant Funds | *Source ID*: TCSP(88%); ITS(7%);VPPP(5%) | $14,709,873 |
| ☒ | Other Funding | *Specify*: TPA | $150,000 |
| | | Total Project Funding: | $14,859,873 |

VPPP = Variable Pricing Pilot Program
ITS = Intelligent Transportation Systems
TCSP = Transportation Community and System Preservation Program

## Project Status Report

Reporting Period:   4/1/2010 thru 6/30/2010

| PROJECT: | Tolling Project - Statewide Customer Service Center |
|---|---|

**Report Submitted by:  Patty Rubstello, Director, Tolling & Systems Development Engineer**

| Current Status (compared to Current Baseline) "=": no change, "-": ↓, "+": ↑ | SCOPE | SCHEDULE | BUDGET |
|---|---|---|---|
| | + Green | - Yellow | + Green |
| **Status Summary** | The schedule has no float time and there is concern over the vendor's availability to meet critical delivery dates.   This along with two critical staff with the necessary expertise and knowledge base has caused concern for the schedule.<br><br>• Program Planning Complete – *04/2010*<br>• On-going adjudication working sessions with ETC – *04/2010 thru 06/2010*<br>• Review/Comment on Financial and Accounting – *04/2010 thru 06/2010*<br>• Review/Comment on Operations – *0/2010 thru 06/2010*<br>• Review Preliminary Design Documents – *05/2010 thru 08/2010* | | |

## SCOPE

### This Reporting Period's Progress

ETCC has made contact and are working with external and internal agencies and the other facility toll vendors on the (Interface Control Document) for the CS, i.e.DOL, OST, TRAINS, SR520, TNB and SR167. Reviewed and further defined the Business Rules,Requirements Trace Matrix and accounting system.

### *This Reporting Period's Issues / Risks and Mitigation Strategies*

With the major risk of this project being the compressed schedule, the team has been working along side the vendor in reviewing Preliminary Design Documents (PDD), which target the gaps in their core system. Subsequent to this phase, the vendor will begin the development. Although the vendor 's schedule does not specify tasks, as this is a services and outcome based contract and was not required, the vendor has agreed to provide reviews during the development phase, allowing us the opportunity to confirm the design concepts are correct, as they progress.

### Change Control Decisions

Adding the adjudication module.

### Objectives for next Reporting Period

• Conduct "CSC Reports Workshop"
• Approve Business Rules
• Review of Preliminary Design Documents
• Review Detail Design Documents
• Vendor's info session of Miami Dade Expressway (MDX) subsidiary ledger

## SCHEDULE

| PROJECT LIFECYCLE > | ☐ Initiation | ☐ Planning | ☐ Execution | ☒ Implementation | ☐ Closure |
|---|---|---|---|---|---|

| ◆ **Major Milestones** Current Baseline | Schedule | | | Milestone Outlook |
|---|---|---|---|---|
| | Original Baseline | Current Baseline | Attained | |

| | | | | |
|---|---|---|---|---|
| Program Planning Complete | 03/12/2010 | 03/12/2010 | April 2010 | |
| Financial and Accounting Preparation Complete<br>• TRAINS Interface Doc<br>• Internal Control Plan<br>• Reconciliation Procedures | 12/19/2010 | 12/19/2010 | | *On Track* |
| Operations Preparation Complete<br>• Business Rules<br>• Requirement Trace Matrix<br>• SOPs<br>• Sec Mgt Plan<br>• Reports<br>• CSC Ops Materials | 12/19/2010 | 12/19/2010 | | *On Track* |
| System Preparation Complete<br>1. Software Enhancement Design<br>2. System-ICD; Integration Plan; Network Design; Software Documentation;PCI Certification | 12/19/2010 | 12/19/2010 | | *On Track* |
| TNB Data Migration Complete<br>• Plan; Mapping; Test Plan; Test Procedures; Trial Migration & Migration Test Rpt; Deficiencies Log | 01/18/2011 | 01/18/2011 | | *On Track* |
| Facilities Established<br>• Main CSC<br>• 3 Storefronts | 01/18/2011 | 01/18/2011 | | *On Track* |
| Start-up Complete | 01/18/2011 | 01/18/2011 | | *On Track* |
| CSC Operations Commencement | 01/18/2011 | 01/18/2011 | | *On Track* |
| Tolling Commencement | 03/19/2011 | 03/19/2011 | | *On Track* |
| Acceptance Issued | 07/21/2011 | 07/21/2011 | | *On Track* |

| BUDGET | | | | | |
|---|---|---|---|---|---|
| **Project Budget Breakdown** Item Description | **Original Baseline Budget Plan** | **[A] Current Baseline Budget Plan** | **[B] Actual Expenditures To Date** | **[C] Projected Amount to Complete** | **Variance** Variance = [A] - [B] - [C] |
| ETC Contract (Implementation/Start-up only) | $2,824,628 | $2,824,628 | $135,000 | $2,689,628 | 0 |
| WSDOT | $1,150,000 | $1,150,000 | $35,020 | $1,114,980 | 0 |
| Consultant Oversight | $2,639,560 | $2,639,560 | $1,324,093 | $1,315,467 | 0 |
| Future Agreements | $8,245,685 | $8,245,685 | 0 | $8,245,685 | 0 |
| **Totals >** | $14,859,873 | $14,859,873 | $1,494,113 | $13,365,760 | 0 |
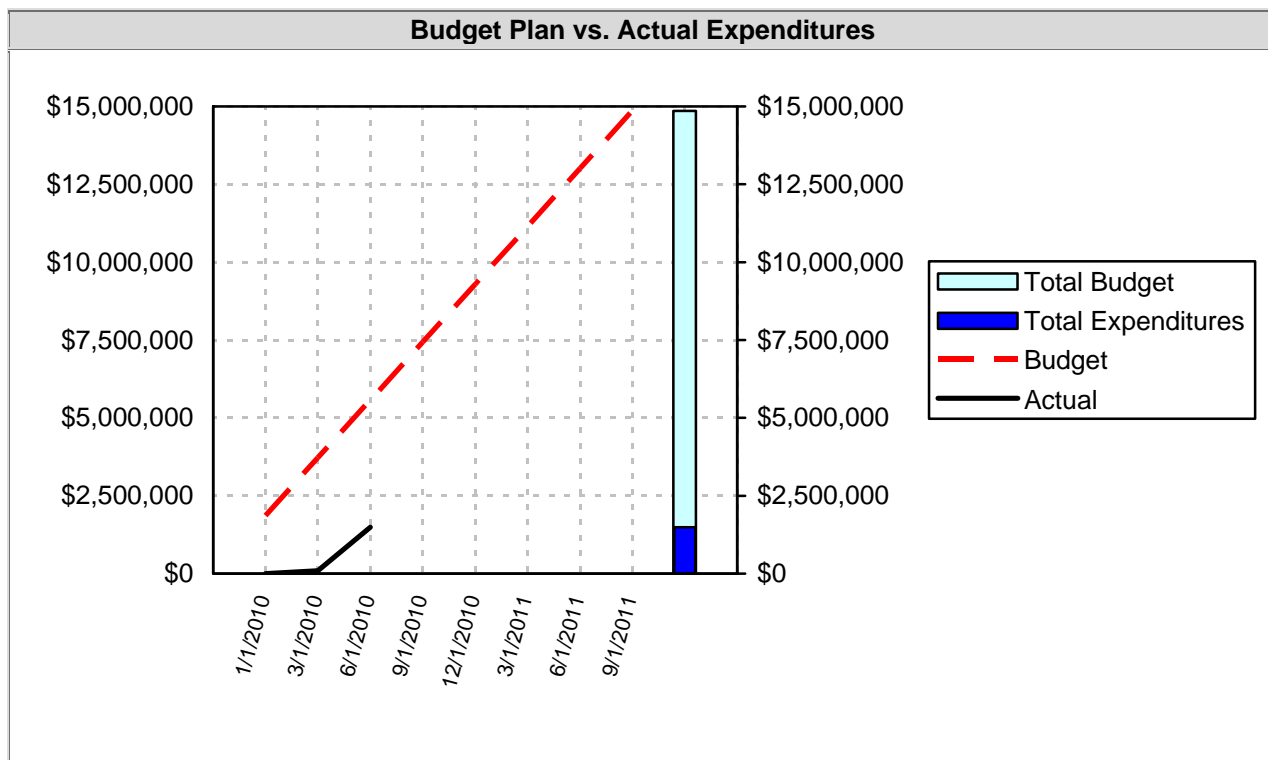
**Budget Plan vs. Actual Expenditures**

| PROJECT: | **Electronic Fare System including Integration with Smart Card (RFCS)** | | |
|---|---|---|---|
| **OVERSIGHT LEVEL >** | ☐ Level 3 | ☒ Level 2 | ☐ Level 1 |

| **Executive Sponsor**<br>David Moseley, Assistant Secretary<br>Ferries Division | **IT Project Manager**<br>Roger Hair – Electronic Fare System<br>Brian Churchwell – Smart Card |
|---|---|
| **Business Area Manager**<br>Jean Baker, Deputy Chief<br>Administration and Finance, Ferries Division | **Consultant/Contracting Firm**<br>Avanade – Electronic Fare System<br>ERG – Smart Card |

## PROJECT DESCRIPTION

| **TYPE OF PROJECT >** | ☒ System Development | ☐ RFP | ☐ Feasibility Study | ☐ Other |
|---|---|---|---|---|
| **Project Start Date:** | 04/29/2003 | **Current Baseline Scheduled Completion Date:** | 10/31/2010 | |

*Note: Projects which have a DIS Investment Plan, the Start and End dates should equate to dates specified in the Investment Pan.*

Replace the existing Point of Sale and back office revenue accounting system at all (20) WSF ferry terminals.  Integration of a regional simplified fare collection system using smart card technology with 6 participating transit agencies,

## Business Need

| **BUSINESS DRIVERS >** | ☒ Legislative | ☒ Audit Finding | ☐ Business Opportunity | ☐ Other |
|---|---|---|---|---|

This project is a result of legislative push for a more regional transportation approach.

**Goal – Improve Revenue Controls**
Washington State Ferries (WSF) Electronic Fare System (EFS) goals was to replace an existing out of date point of sales system with one that would allow delivery of new services such as selling tickets at Kiosks or on the Web, deliver improved revenue controls and provide the necessary infrastructure to support WSF's participation in the regional Smart Card system.

## PROJECT BUDGET

| Funding Source(s) | | Funding Source Specifics | |
|---|---|---|---|
| ☐ | Program Funds | *Subprogram(s)*: | $ |
| ☒ | Legislative Funding | *Source ID*: | $13,392,798 |
| ☒ | Federal / Grant Funds | *Source ID*: | $ 4,571,675 |
| ☒ | Other Funding | *Specify*: Sound Transit | $    158,100 |
| ☒ | Other Funding | *Specify*: Boeing Mitigation | $     26,000 |
| | | **Total Project Funding:** | **$18,148,573** |

*Funding is for both RFCS & EFS

Project Status Report

Reporting Period:   4/1/2010 thru 6/30/2010

| PROJECT: **Electronic Fare System including Integration with Smart Card (RFCS)** |
|---|

**Report Submitted by:**  Brian Churchwell & Roger Hair (Project Managers)

| Current Status<br>*(compared to Current Baseline)* | SCOPE | SCHEDULE | BUDGET |
|---|---|---|---|
| | = Green | = Yellow | = Green |

| **Status Summary** | ERG was unable to meet the requirements for final acceptance on the original date, they have meet 15 of the KPI's (requirements for acceptance) but there is no firm date for the remaining requirements.  Since there is no firm date for the final acceptance that is the reason the schedule is yellow.  The Region is activity working with ERG towards final acceptance and anticipates to have a new date set soon.<br><br>**Electronic Fare System (1st Phase):**<br>&bull; Final System Acceptance has been achieved.<br><br>**Smart Card (2nd Phase):**<br>Over the last quarter we continue to monitor system performance while in our operation phase and focusing on final steps to achieve Full System Acceptance:<br><br>&bull; The agencies continued to negotiate new Full System Acceptance (FSA) testing criteria due to ERG not being able to meet the KPIs of the first testing period that completed in October 2009.  An agreement was signed in July 2010.<br>&bull; ERG completed the 10th maintenance release to resolve many outstanding issues.  The focus of this release was mainly the high severity issues that have been identified during our production use. |
|---|---|

**This Reporting Period's Progress**

During this past quarter we saw our passenger usage of ORCA plateau off. This is due to WSF marketing to walk-on passengers to transition to ORCA and King County Metro transitioning most employers to ORCA during previous quarters.

| | Regional Total Boardings | WSF Total Boardings | WSF Average Weekday Boardings |
|---|---|---|---|
| April | 4,641,228 | 67,274 | 2,827 |
| May | 4,623,016 | 64,506 | 2,762 |
| June | 4,983,916 | 67,140 | 2,809 |
| **TOTAL** | **14,248,160** | **198,920** | |
| **Agency %** | **100.00%** | **1.40%** | |

Agency lawyers and ERG continued to negotiate the new terms of Full System Acceptance (FSA) testing due to ERG's inability to meet the original KPIs during their first testing period ending in October 2009. In July (next reporting period) we were able to come to agreement on the new terms of the FSA testing period. This agreement makes the testing period start retroactively to May 2nd. To meet FSA requirements, ERG must meet the KPIs on 15 separate elements for an 8 week period. We are currently analyzing the first 8 week period that ended June 26th. If an element meets the KPI, then that single element will pass. If it fails, then we begin analyzing each element on a rolling 8 week period until all elements have passed. In addition to meeting the KPI, there may be no severity 1 or 2 system bugs (DEVIs) for that element in order for it to pass. After all elements have passed, ERG will still be required to resolve all outstanding DEVIs prior to achieving Full System Acceptance and the agencies release all remaining funds.

Maintenance Release 10 was deployed in May. This release had a wide variety of fixes for all devices. There were no items in the release that were critical to Washington State Ferries. There are no outstanding critical DEVIs specific to WSF. There are some outstanding low severity DEVIs scheduled for Maintenance Release 11 to be released into production in late July.

All equipment is working as designed at Washington State Ferries. We have begun to see a degradation of the handheld battery life during the 2nd quarter. We are currently working with our vendor to organize a plan to replace these batteries as they are covered under our operating contract for the 10 years.

Some other items that were achieved during this reporting period:
- The agencies hired a consultant to analyze how ORCA is setup at each agency to a) identify areas of concern that may not be in compliance with PCI which may impact the region and b) identify the division of where the agencies are responsible to perform PCI on ORCA equipment and where our vendor is responsible.
- Hired a consultant to analyze our public websites to identify where we can make improvements due to customer complaints that the websites are complicated and not user friendly. There is money in the existing capital phase to do some redesign.
- We finalized our 2011 Operating Budget and approved our new regional operation % based on 1st quarter ridership. WSF's operating % dropped from 1.96% to 1.53%. This identifies the percentage of the approximately $6 million annual operating budget that each agency must pay.

**This Reporting Period's Issues / Risks and Mitigation Strategies**



**Change Control Decisions**

WSF signed off on the below two change requests to our ORCA vendor to begin looking at a solution for Maintenance Release 10. Due to the success of our software fix in Maintenance Release 9 (1st quarter) these change requests have been withdrawn.

- - 1<sup>st</sup> change request is to disallow an ORCA card to be read a second time at the turnstile until the turnstile bars have rotated.  This will stop a customer from having their ORCA card read multiple times in error and will eliminate the ORCA refunds that we are completing on a daily basis for customers encountering this challenge.
- - 2<sup>nd</sup> change request is to disallow an ORCA card to be read when the turnstiles are locked.  At some terminals we lock the turnstiles when the vessel is not loading to keep the customers out of secure areas.  At this time, ORCA riders are able to get through the turnstiles even when they are locked causing a security/safety concern.

### Objectives for next Reporting Period

- Sign off on the new Full System Acceptance (FSA) testing requirements.
- Begin analyzing FSA testing reports on a weekly basis to identify what elements ERG has achieved the required KPIs.
- Maintenance Release 11 will be deployed and currently has all regional critical DEVIs included in the release.  This is a big step in achieving Full System Acceptance.  They will have some remaining low priority DEVIs that must be completed in maintenance release 12 to achieve FSA.  Maintenance Release 12 is currently scheduled for release into production in early October.
- Identify work for website redesigns.  This more than likely will not be done by ERG prior to FSA and is not required for ERG to achieve FSA.
- Finish work with consultant on analyzing our PCI requirements.

### SCHEDULE

| PROJECT LIFECYCLE > | ☐ Initiation | ☐ Planning | ☐ Execution | ☒ Implementation | ☐ Closure |
|---|---|---|---|---|---|

| ◆ Major Milestones Current Baseline | Schedule | | | Milestone Outlook |
|---|---|---|---|---|
| | Original Baseline | Current Baseline | Attained | |
| EFS: Final System Acceptance | 9/7/2006 | TBD | | Late Dependent on response to letter sent to Avanade |
| SC: Project Start Date | 04/29/2003 | 04/29/2003 | 04/29/2003 | Completed |
| SC: Final Design | 02/26/2005 | 09/01/2005 | 09/01/2005 | Completed |
| SC: Beta Testing | 10/25/2005 | 09/04/2007 | 09/04/2007 | Completed |
| SC: Complete System Commissioning | 06/02/2006 | 1/15/2009 | 08/12/2009 | Late; Completed |
| SC: System Go-Live | 07/22/2006 | 4/20/2009 | 4/20/2009 | Late; Completed; |
| Project Completion Date | 01/19/2007 | 10/31/2010 | | Late; due to some DEVIs scheduled in Maintenance Release 12, the earliest this will be achieved is late October.  This date is an estimate only. |

### BUDGET

| Project Budget Breakdown Item Description | Original Baseline Budget Plan | Current Baseline Budget Plan | Actual Expenditures To Date | Projected Amount to Complete | Variance Plan - Expenditures - Projected = Variance |
|---|---|---|---|---|---|
| EFS | 11,383,187 | 11,651,302 | 11,651,302 | 0 | 0 |
| Smart Card (RFCS) | 3,331,664 | 4,475,191 | 3,516,072 | 959,119 | 0 |
| Terminal Improvements | 1,005,149 | 2,022,080 | 2,022,080 | 0 | 0 |
| Totals > | $15,720,000 | $18,148,573 | $17,189,454 | $959,119 | 0 |

## Budget Plan vs. Actual Expenditures

### Accumulated Budget vs Expenditures
### EFS & RFCS
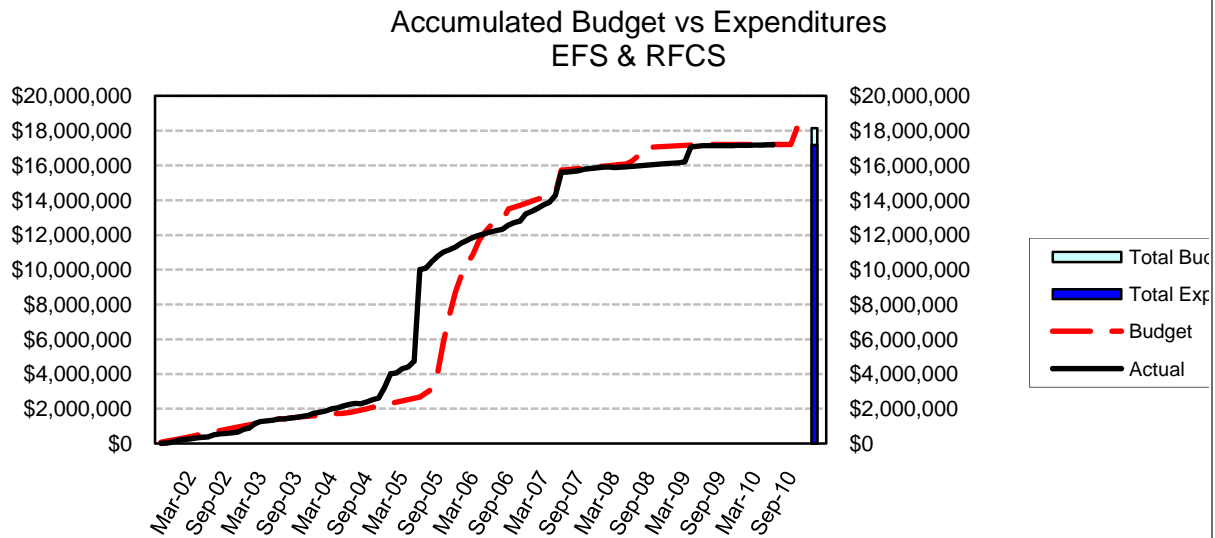
## b. Post Implementation Reviews

WSDOT's Statewide Project Management Reporting System (PMRS) was completed in June 2010.  The Post Implementation Review (PIR) is scheduled for September 2010.

Transportation Building
310 Maple Park Avenue SE
Olympia, WA 98504-7300

360-705-7000
TTY: 1-800-833-6388
www.wsdot.wa.gov

August 31, 2010

Mike Ricchio
Department of Information Services
Deputy Director, Management & Oversight of Strategic Technologies
PO Box 42445
Olympia, WA  98504-2445

Dear Mr. Ricchio:

This letter is to certify that the Washington State Department of Transportation (WSDOT) is in compliance with the Information Services Board's (ISB) information technology (IT) policies and standards for IT Portfolio Management.  This includes the following areas;

- WSDOT has reviewed and updated our IT Portfolio, including plans and information for fiscal year 2010- 2013. Attached is a copy of the 2010 IT Portfolio for your review.  An electronic copy of the portfolio will be submitted to the Department of Information Services (DIS) Oversight Consult responsible for WSDOT.  Appropriate entries in accordance with the ISB IT Portfolio Standard will be made to the Information Technology Portfolio Management System (ITPMS) that replaced the e-Portfolio.
- WSDOT's IT Security Program has been reviewed and updated.  Changes to IT Security in WSDOT since the last portfolio include the appointment of a trained IT security officer as required by the ISB Security Standard, a new coordination effort with the Department of Information Services (DIS) regarding requirements for WSDOT re-connecting to the State Government Network (SGN), and work on meeting the new IT security standards by the July 2012 as required.  Additionally security program changes may be expected as WSDOT works towards the ISB standards outlined in Policy 401-S4 and implements changes in accordance with Purchase Card Industry (PCI) standards.  The last IT Security Audit was conducted in 2009 and WSDOT was fully compliant with the audit requirements. The next audit is due in 2012.
- WSDOT's IT Disaster Recovery/Business Resumption Plan has been updated and tested in compliance with the ISB Disaster Recovery/ Business Resumption Policy.  In July a successful disaster recovery test was conducted by the WSDOT mainframe group.  Results of this test are available from the WSDOT Office of Information Technology.
- WSDOT has updated our agency's GIS information.
- The 2010 IT Certification Checklist is attached.

If you have any questions, please do not hesitate to call Thelma Smith, IT Portfolio Administrator (360-705-7764) or Dave Koch, IT Communications and Strategic Planning Manager (360-705-7764).

Sincerely,

Paula Hammond
Secretary of Transportation

tks
Enclosure: Portfolio
         Checklist

# Attachment: 2010 IT Portfolio Certification

2010 ISB IT Portfolio Certification for WA State Dept of Transportation

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My agency has reviewed and updated its IT Portfolio information in the IT Portfolio Management System (ITPMS) application. ITPMS can be found at http://ssvapolyptmg1p.ssv.wa.lcl/niku/app.  ☒ Yes ☐ No

NOTE: To be compliant, agencies must provide updated information in the following sections of ITPMS: IT Portfolio overview; agency strategic business plan; GIS resources (if applicable); personal & workgroup computing; projects; applications; and, databases.

My agency has entered its actual IT-related expenditures and inventory information for Fiscal Year 2010 into the IT Portfolio Management System.  ☒ Yes ☐ No

My agency has updated its projected and budget IT-related expenditures and inventory for Fiscal Years, 2011, 2012, and 2013 into the IT Portfolio Management System.  ☒ Yes ☐ No

My agency has updated its applicable geographic information systems (GIS) information into the IT Portfolio Management System.  ☒ Yes ☐ No

My agency has updated and tested its disaster recovery/business resumption plan.  ☒ Yes ☐ No

My agency has reviewed and updated its IT Security Program.  ☒ Yes ☐ No

If you completed your security audit between September 1, 2009 and August 31, 2010, please provide the completion date:  Completed 12/31/2009

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Your signature below indicates your agency has complied with the ISB IT Portfolio Policy and Standards:

_BAGHammond_ 

Paula Hammond, Secretary of Transportation

8/19/10
Date

**Washington State
Department of Transportation**

# Memorandum

To:        Grant Rodeheaver
           Director of Information Technology

From:      Steven P. McKerney, CPA  ᏚᎷ
           Director of Internal Audit

Date:      August 4, 2010

Subject:   Management Request Report No. D09-05A
           *Follow-up review of 2009 IT Security Audit Report Number D09-05.*

The Washington State Department of Transportation Office of Information Technology (OIT) requested that we review updated OIT policies and procedures for compliance with the Information Services Board (ISB) Information Technology (IT) Security Policy and Standards, both revised January 10, 2008, as a follow up to findings in our 2009 IT Security Audit. Specifically, OIT asked the Internal Audit Office to determine whether OIT's updated IT security policies and procedures comply with all ISB IT Security Policy and Standards identified as being non-compliant in our 2009 IT Security Audit Report Number D09-05.

We reviewed the audit findings from our 2009 IT Security Audit Report and worked with IT Communication Strategies and Policy Manager, David Koch, and IT Policy and Standards Specialist, Peggy Bright to obtain OIT's updated IT policies and procedures.

## Results:

Based on our review, **OIT's policies and procedures are in full compliance with the January 10, 2008, revised ISB IT Security Policy and Standards.**

This report is intended solely for the use of the WSDOT management and should not be used for any other purpose. This restriction is not intended to limit the distribution of this report, which, upon acceptance by the Office of the Secretary, is a matter of public record.

## Scope

This request focused on reviewing additional documentation provided by OIT and determining if the additional documentation corrects findings identified in Audit Report Number D09-05 and brings OIT into full compliance of those sections of the ISB IT Security Policy Standards, both revised January 10, 2008, identified in this report.

We reviewed the following updated OIT Security Procedures, developed in response to our 2009 ISB Security Audit Report, Number D09-05.

- Two (2) **revised** OIT IT security standards:
    - 950.03 – Network Anti-Virus Protection
    - 960.03 - Remote Access Security

- Ten (10) **new** security standards:
    - 900.02 – Information Technology Risk Analysis Procedures
    - 940.14 – Data Encryption Procedures
    - 940.15 – Secure File Transfer (SFT) Procedures
    - 950.14 – Virus Protection for E-Mail Procedures
    - 950.15 – Host Anti-Virus Procedures
    - 950.16 – Virus Protection for File Transfers Procedures
    - 950.17 – Web Access Security and Client Procedures
    - 960.09 – Internet Monitoring/Filtering/Blocking Procedures
    - 960.10 – Dial-Up Remote Access Procedures
    - 960.11 – Remote Access Monitoring Procedures and two standalone security documents; SQL Server 2008 Sensitive Data Protection Procedures and Mainframe Sensitive Data Protection Procedures.

We reviewed the following sections of the ISB IT Security Policy revised January 10, 2008,

  **A.**  Policy Statement 2

    Each agency shall adhere to this policy and current security standards adopted by the Information Services Board (ISB).

We reviewed the following sections of the ISB IT Security Standards, revised January 10, 2008:

  A. **I.B** - Business Impact and Vulnerability, Threat and Risk Analysis

    Attribute 1 bullet point (5). Identify the value of safeguards or countermeasures designed to reduce the threats and vulnerabilities to an acceptable level.

  B. **II.A** - Personnel Security Standards

Attribute (1) Reference checks and background investigations where appropriate.

C. **II.C** - Data Security Standards

Attribute (4) (b) (i) Secure File Transfer - Confidential information subject to exposure shall be encrypted.

Attribute (4) (b) (iii) Secure data storage is defined as the protection of data content and changes in data state from its original storage on electronic media by using encryption processes. Secure data storage requires that:

- An organization has the ability to un-encrypt stored data through an authorized process.
- An organization has the ability to un-encrypt stored data through a pre-defined recovery period identified by the organization.
- An organization protects the encryption and decryption method (key and algorithm).
- If the data is accessed by unauthorized entity, it cannot be understood.
- An organization has the ability to detect alteration of intended content.

D. **II.D** - Network Security Standards

Attribute (4) (a) Agencies shall develop, document, and implement policies and procedures that address virus prevention, detection and removal processes, including signature currency. Agencies shall ensure that all file transfers, e-mail of all types, and web browser based traffic are examined for known viruses. File transfer, e-mail or web browser-based traffic that cannot be examined for viruses should be disallowed.

E. **II.E** Access Security Standards

Attribute (2) (a) (i) Dial-in ports may be used only if there is no other way to satisfy a business need.

Attribute (2) (a) (ii) If dial-in is used; all security features (dial back, etc.) appropriate to the operating environment shall be used.

Attribute 2 (c) Agencies shall monitor remote access by vendors